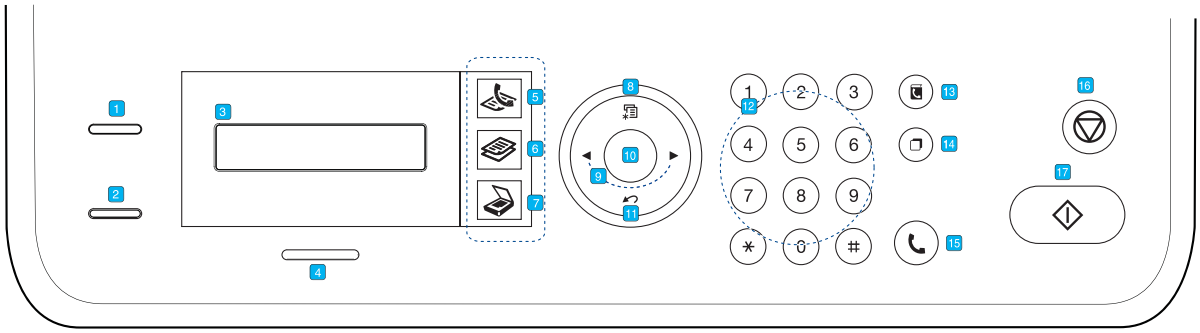
4. Alignment & Troubleshooting

This chapter describes the main functions for service, such as the product maintenance method, the test output related to maintenance and repair, DCU using method, Jam removing method, and so on. It includes the contents of manual.

4.1 Alignment and Adjustments

4.1.1 Control Panel overview



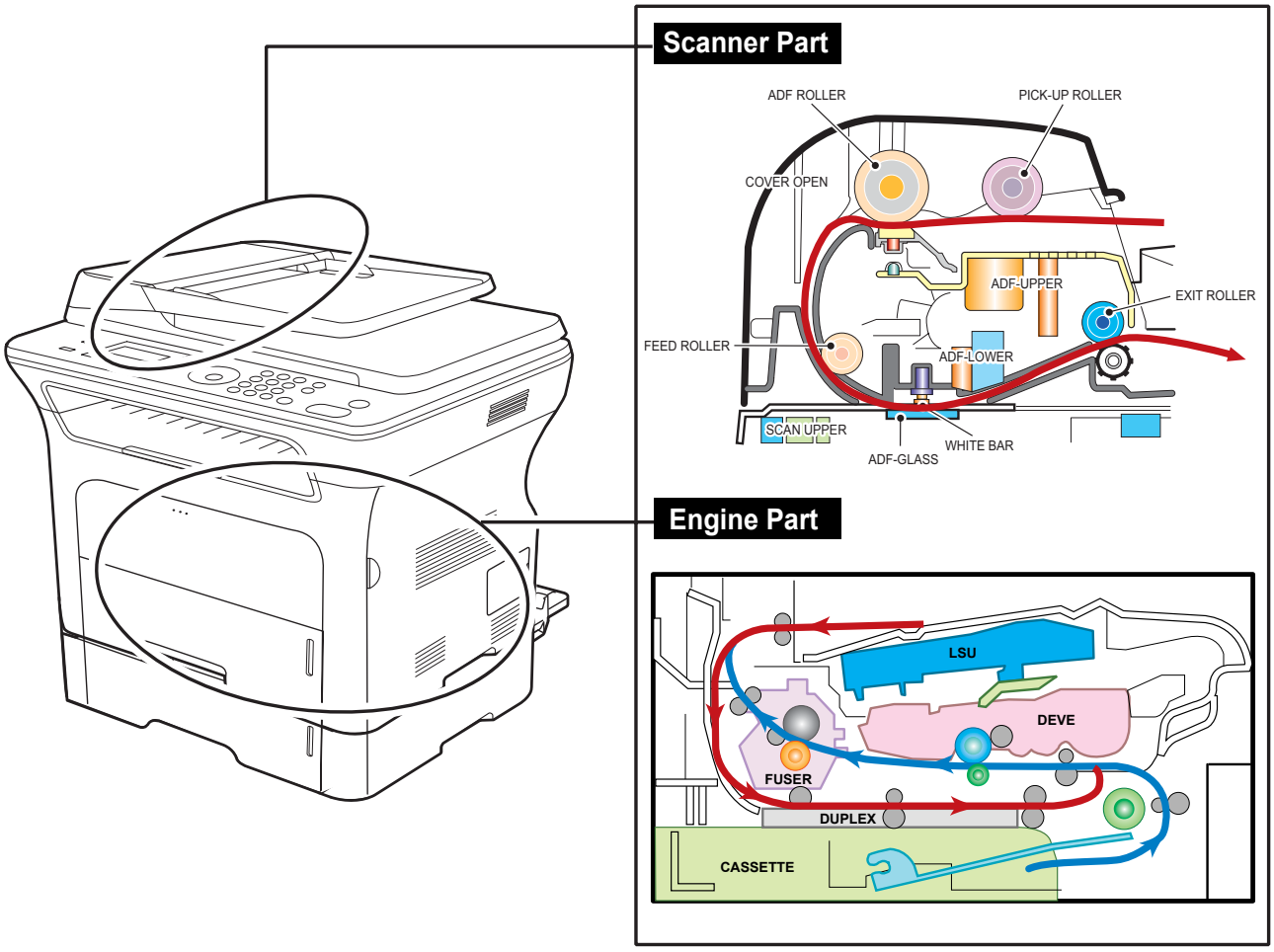
1	**ID Copy**	You can copy both sides of the ID Card like a driver's license to a single side of paper.
2	**Direct USB**	Allows you to directly print files stored on a USB Memory device when it is inserted into the USB memory port on the front of your machine. (SCX-4x28 Series only)
	Reduce/Enlarge	Makes a copy smaller or larger than the original. (SCX-4x24 Series only)
3	**Display**	Shows the current status and prompts during an operation.
4	**Status**	Shows the status of your machine.
5	**Fax**	Activates Fax mode.
6	**Copy**	Activates Copy mode.
7	**Scan/Email**	Activates Scan mode.
8	**Menu**	Enters Menu mode and scrolls through the available menus.
9	**Left/right arrow**	Scroll through the options available in the selected menu, and increase or decrease values.
10	**OK**	Confirms the selection on the screen.
11	**Back**	Sends you back to the upper menu level.
12	**Number keypad**	Dials a number or enters alphanumeric characters.
13	**Address Book**	Allows you to store frequently used fax numbers in memory or search for stored fax numbers or email addresses.
14	**Redial/Pause**	In ready mode, redials the last number, or in Edit mode, inserts a pause into a fax number.
15	**On Hook Dial**	Engages the telephone line.
16	**Stop/Clear**	Stops an operation at any time. In ready mode, clears/cancels the copy options, such as the darkness, the document type setting, the copy size, and the number of copies.
17	**Start**	Starts a job.

4.1.2 Understanding The Status LED

The color of the Status LED indicates the machine's current status.

Status		Description
Off		• The machine is powered off-line. • The machine is in power save mode. When data is received, or any button is pressed, it switches to on-line automatically.
Green	On	• The machine is powered on and can be used.
	Blinking	• When the green LED slowly blinks, the machine is receiving data from the computer. • When the green LED rapidly blinks, the machine is printing data.
Red	On	• A problem has occurred such as a paper jam, cover open or no paper in the tray, so that the machine cannot continue the job. • The toner cartridge is empty, or needs to be changed.
	Blinking	• A minor error has occurred and the machine is waiting for the error to be cleared. • The toner cartridge is low. Order a new toner cartridge.

4.1.3 Paper path



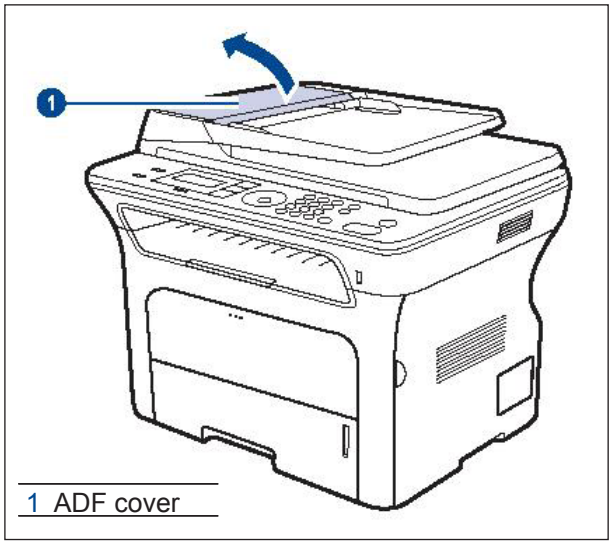
4.1.3.1 Clearing Document Jams

When an original jams while passing through the ADF, Document Jam appears on the display.

Input Misfeed

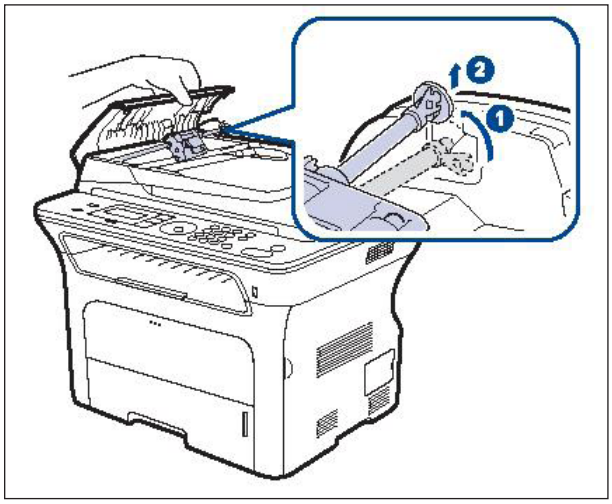
1. Remove any remaining pages from the ADF.

2. Open the ADF cover.

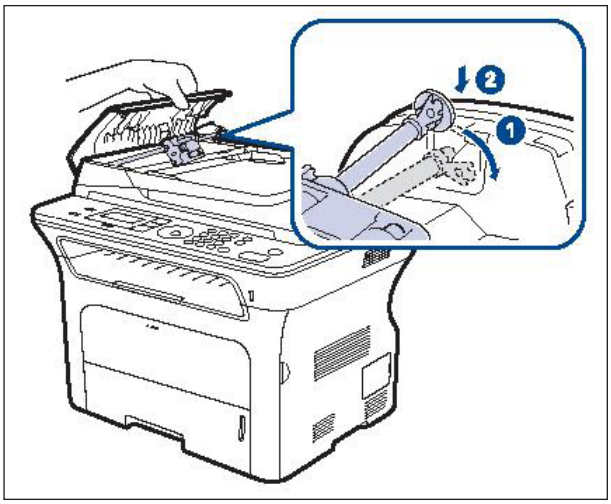


1 ADF cover

3. Rotate the bushing on the right end of the ADF roller toward the ADF (1) and remove the roller from the slot (2). Pull the document gently to the left and out of the ADF.



4. Align the left end of the ADF roller with the slot and push the right end of the ADF roller into the right slot (1). Rotate the bushing on the right end of the roller toward the document input tray (2).

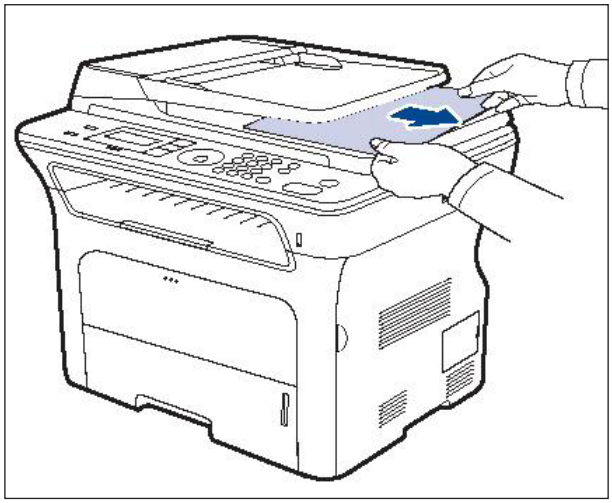


5. Close the ADF cover. Then load the removed page(s), if any, back into the ADF.

Exit misfeed

1. Remove any remaining pages from the ADF.

2. Seize the misfeed paper, and remove the paper from the document output tray by carefully pulling it to the right using both hands.

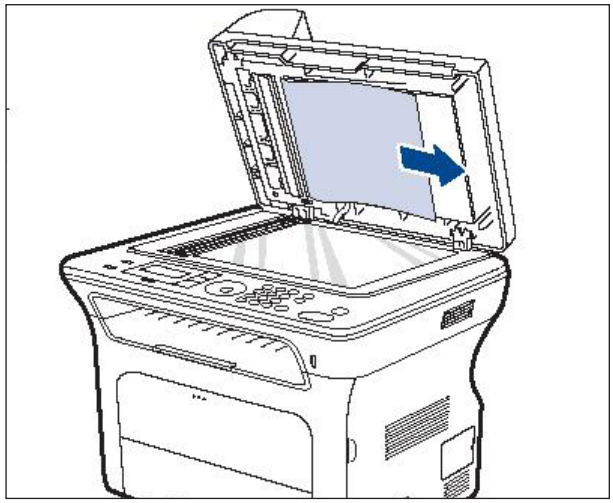


3. Load the removed pages back into the ADF.

Roller misfeed

1. Open the scanner lid.

2. Seize the misfeed paper, and remove the paper from the feed area by carefully pulling it to the right using both hands.



3. Close the scanner lid. Then load the removed pages back into the ADF.

4.1.3.2 Clearing paper jams

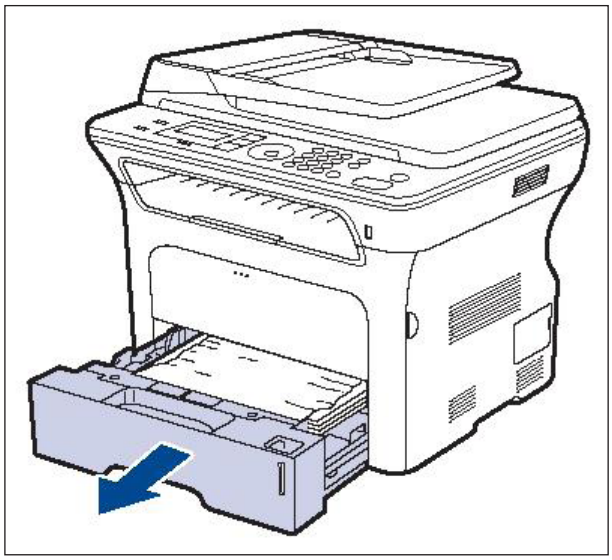
When a paper jam occurs, the warning message appears on the display screen. Refer to the table below to locate and clear the paper jam.

Message	Location of jam
Paper Jam 0 **Open/Close Door**	In the paper feed area or inside the machine
Paper Jam 1 **Open/Close Door**	Inside the machine
Paper Jam 2 **Check Inside**	Inside the machine or in the fuser area
Duplex Jam 0 **Check Inside**	Inside the machine
Duplex Jam 1 **Open/Close Door**	In the paper feed area or inside the machine

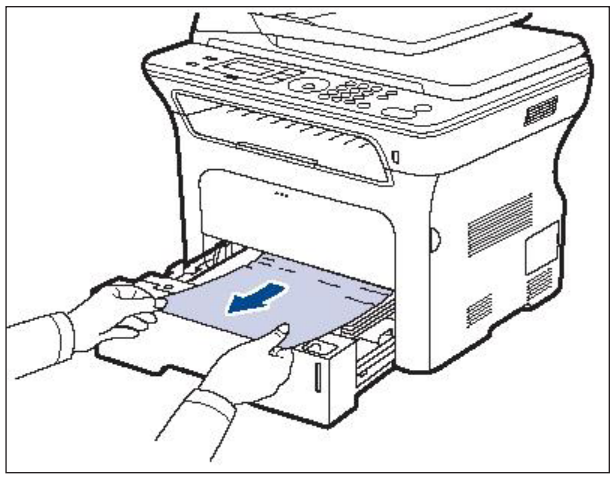
In the paper feed area

If paper is jammed in the paper feed area, follow the next steps to release the jammed paper.

1. Pull the tray open.



2. Remove the jammed paper by gently pulling it straight out as shown below.



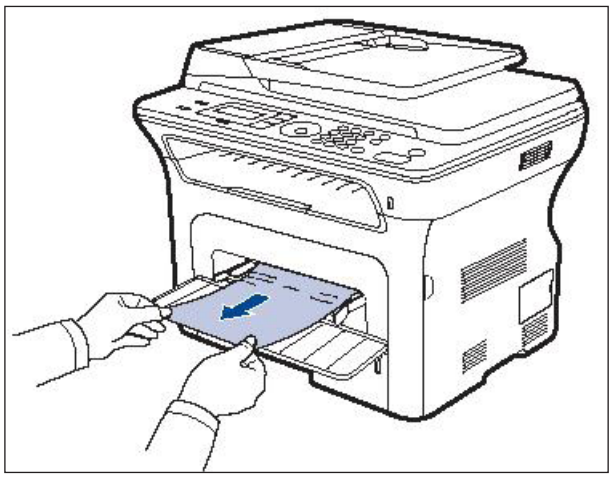
If the paper does not move when you pull, or if you do not see the paper in this area, check In the toner cartridge area.

3. Insert the tray back into the machine. Printing automatically resumes.

In the manual tray

When you print using the manual tray and the machine detects that there is either no paper or that the paper has been improperly loaded, follow the next steps to release the jammed paper.

1. Check if the paper is stuck in the feeding area, and if so, pull it out gently and slowly.



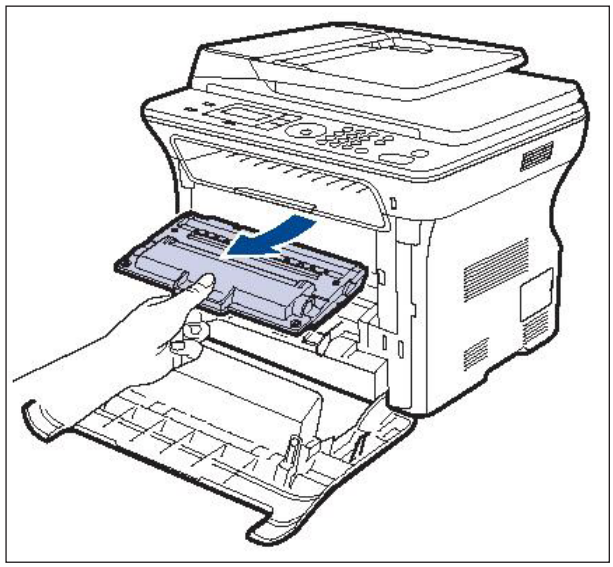
2. Load a paper into the manual tray.

3. Open the front cover and close it. The machine will resume printing.

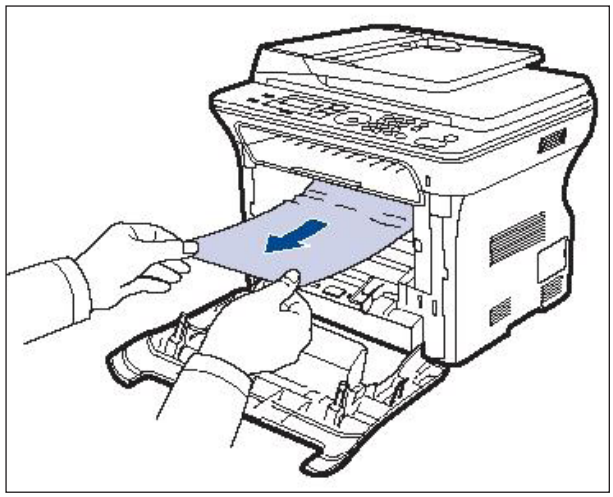
In the toner cartridge area

If paper is jammed in the toner cartridge area, follow the next steps to release the jammed paper.

1. Open the front cover and pull the toner cartridge out



2. Remove the jammed paper by gently pulling it straight out as shown below.

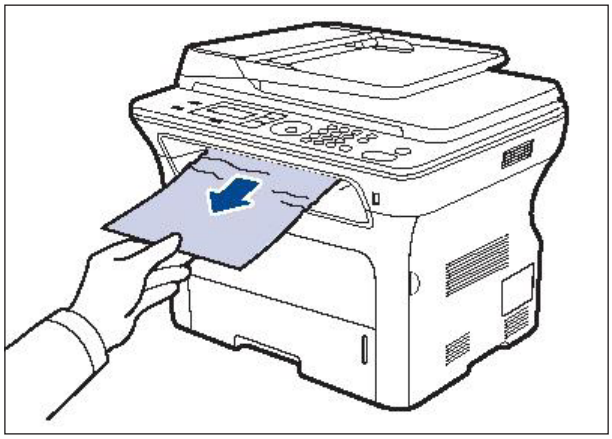


3. Replace the toner cartridge and close the front cover. Printing automatically resumes.

In the paper exit area

If paper is jammed in the paper exit area, follow the next steps to release the jammed paper.

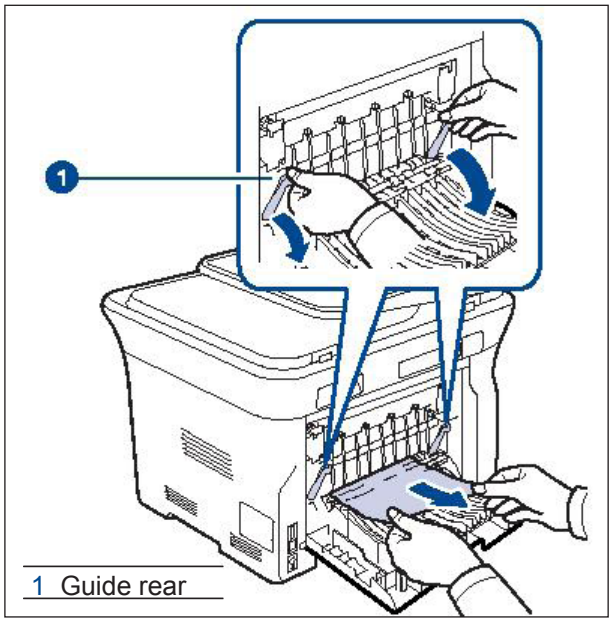
1. If a long portion of the paper is visible, pull it straight out. Open and close the front cover firmly. The machine will resume printing.



If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to step 2.

2. Open the rear cover.

3. Pull the guide rear on each side down and carefully take the jammed paper out of the machine. Return the guide rear to its original position.

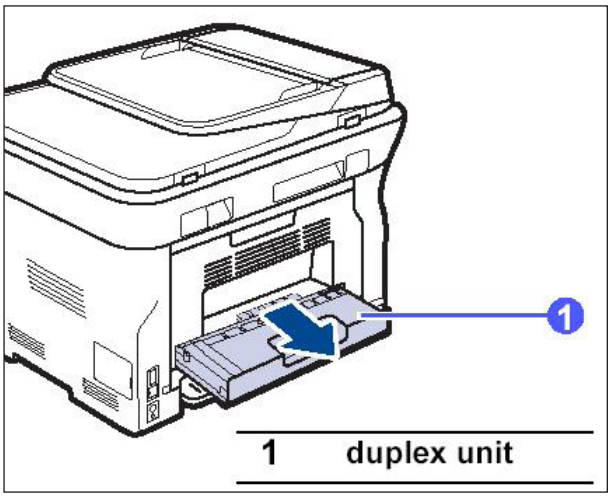


4. Close the rear cover. Printing automatically resumes.

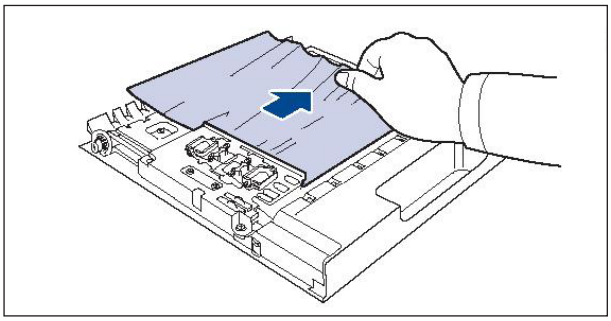
In the duplex unit area

If the duplex unit is not inserted correctly, paper jam may occur. Make sure that the duplex unit is inserted correctly.

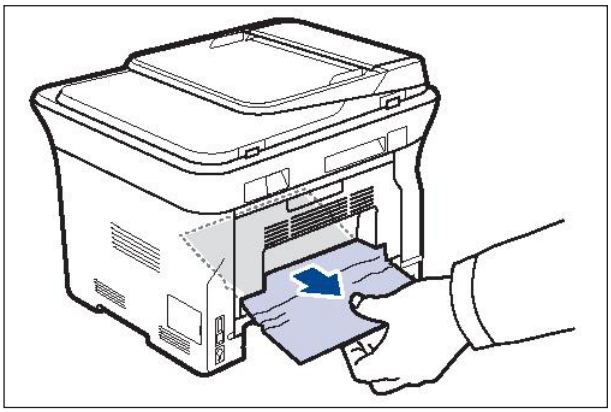
1. Pull the duplex unit out of the machine.



2. Remove the jammed paper from the duplex unit.



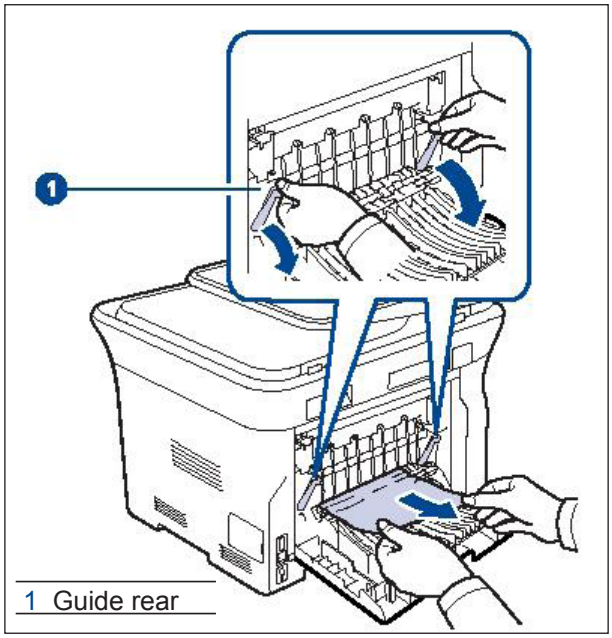
If the paper does not come out with the duplex unit, remove the paper from the bottom of the machine.



If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to step 3.

3. Open the rear cover.

4. Pull the guide rear on each side down and remove the paper. Return the guide rear to its original position.



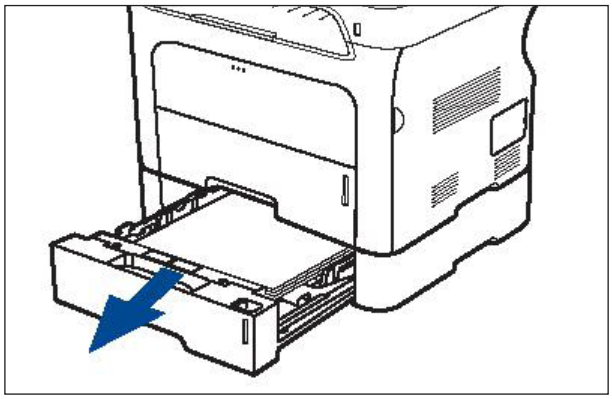
1 Guide rear

5. Close the rear cover. Printing automatically resumes.

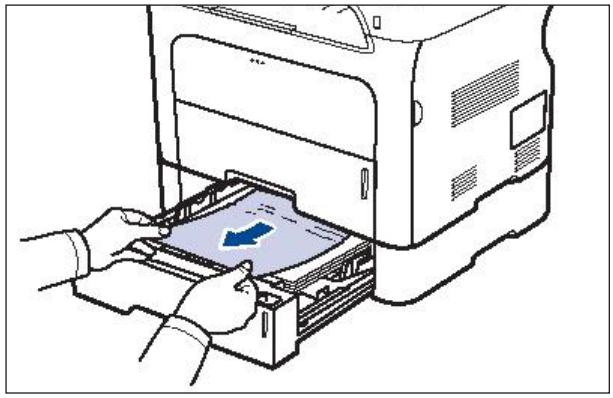
In the optional tray

If paper is jammed in the optional Tray, follow the next steps to release the jammed paper.

1. Pull the optional tray open.

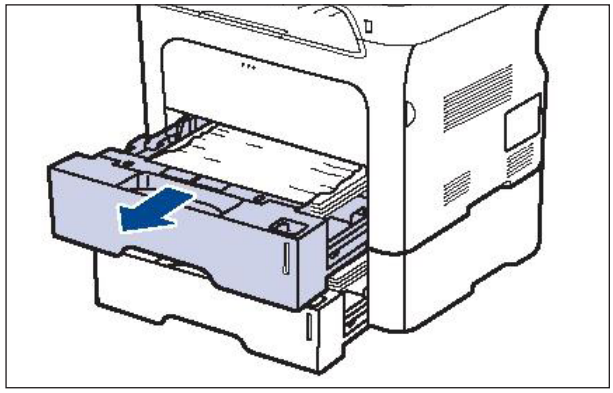


2. If you see the jammed paper, remove the paper from the machine by gently pulling it straight out as shown below.

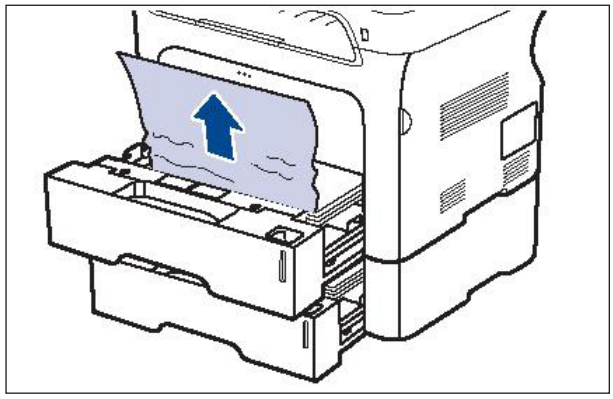


If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to step 3.

3. Pull the tray half.



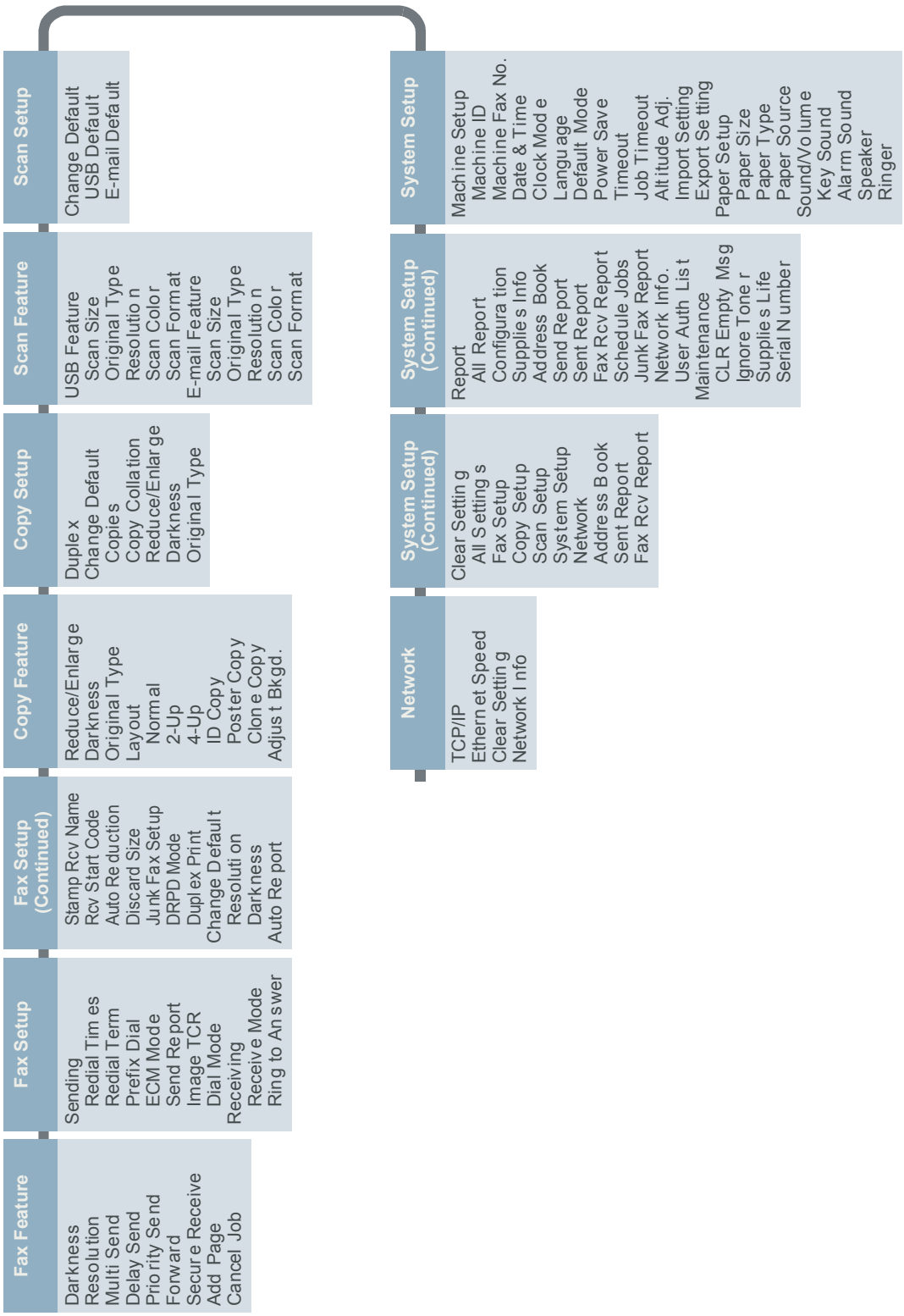
4. Remove the jammed paper by gently pulling the paper straight up and out.



5. Insert the trays back into the machine. Printing automatically resumes.

4.1.4 Menu Map

The control panel provides access to various menus to set up the machine or use the machine's functions. These menus can be accessed by pressing Menu. Refer to the following diagram. Menus available in Fax, Copy, or Scan mode vary.



4.1.4.1 Accessing to menus

The next steps are the example to print the menu map of this machine, and they are the general way to select menu and configure your machine.

1. Make sure your machine is properly connected all the necessary cables, and turn on the machine.
2. Press the Menu button until you see the menu (ex. Information) you want on the bottom line of the display.
3. Press the OK button to access the menu.
4. Press the Left/right arrow buttons until the menu item (ex. Menu Map) you want displays on the bottom line.
5. Press the OK button to confirm the selected item.
6. Press the Left/right arrow buttons until the menu item (ex. Print?) you want displays on the bottom line.
7. Press the OK button to process your selection, save your input or selection.
   An asterisk (*) appears next to the selection on the display, indicating that it is now the default.
8. To exit the menu, press the Back button repeatedly, or the Stop button.

Note - If you want to set the basic menu items, please consult the user guide.

4.1.5 Tech Mode

4.1.5.1 How to Enter Tech Mode

In service (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction.

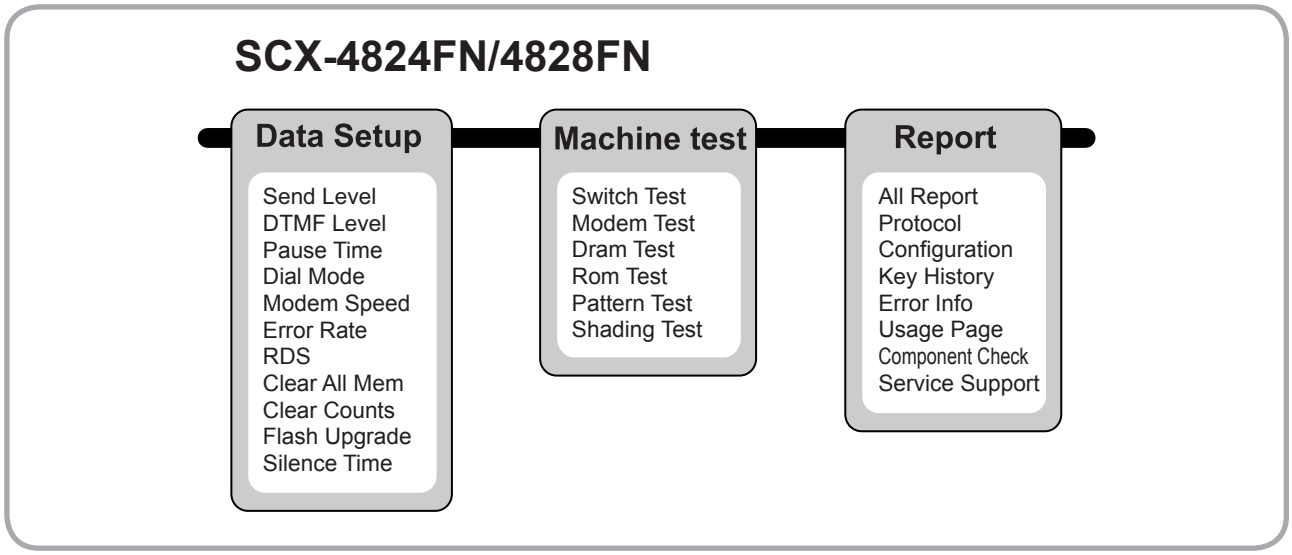
While in Tech mode, the machine still performs all normal operations.

To enter the Tech mode

To enter the Tech mode, press Menu → # → 1 → 9 → 3 → 4 → # in sequence, and the LCD briefly displays 'TECH', the machine has entered service (tech) mode.

4.1.5.2 Setting-up System in Tech Mode

In service (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction.



4.1.5.3 Data Setup

SEND LEVEL
You can set the level of the transmission signal. Typically, the Tx level should be under -12 dBm.
Caution : The Send Fax Level is set at the best condition in the shipment from factory. Never change settings arbitrarily.

DIAL MODE
This function can choose dial method.
*Default : Dial(Dial/Pulse)

MODEM SPEED
You can set the maximum modem speed.
Communication is done with modem speed automatically set at lower speed when communicating with a slower speed modem since communication is done on the standard of the side where modem speed is low for transmission/reception. It is best set 33.6Kbps as default setting.

ERROR RATE
When the error rate is about exceed the set value, the Baud rate automatically adjusts to 2400 bps.
This ensures that the error rate remains below the set value.
You can select the rate between 5% and 10%.

CLEAR ALL MEMORY
The function resets the system to factory default settings.
This function is used to reset the system to the initial value when the product is functioning abnormally. All the values are returned to the default values, and all the information, which was set by the user, will be erased.

< Method >
1. Select the [MEMORY CLEAR] at the TECH MODE.
2. Push the OK button.
3. Select you country. (There are four country groups. Refer to the table below.)
4. Push the OK button then it will clear all memory.

NOTICE : Always perform a memory clear after replacing the main board. Otherwise, the system may not operate properly.

Country Group	USA/Canada	UK	Russia	Southafrica
Country	USA/Canada Mexico Brazil	UK Germany France Italy Spain Austria Netherlands Belgium Portugal Sweden Norway Denmark Finland Switzerland Greece Ireland Turkey	Russia India Oman Poland Bangladesh Kuwait Moroco Algeria Pakistan UAE Bahrain Srilanka Saudi Arabia Chile Peru Argentina Hungary Romania Bulgaria Czech	South Africa

Flash Upgrade

The Firmware Upgrade function and has two methods, Local and Remote.

1) Local Machine Upgrade

• RCP(Remote Control Panel) mode
This method is for USB Port Connect to PC and activate RCP(Remote Control Panel) to upgrade the Firmware.

< Method >

How to Update Firmware using RCP

1. Connect PC and Printer with USB Cable.
2. Execute RCP and select Firmware Update.
3. Search Firmware file to update with Browse Icon.
4. Click Update icon, firmware file is transmitted to Printer automatically and printer is initialized when it finished.
5. Click Refresh icon and check what is updated.

• DOS Command mode
This method is just for USB Port. Connect to PC with USB cable and enter DOS Command to upgrade the Firmware

< Method >

1. The first of all, need the files : down.bat, down_com.bin, fprt.exe, and Rom File: file name for upgrade. Save the files in the same folder.
2. In the DOS, input as below and push the enter key. Then, it will be automatically upgraded.
3. There are two commands for the conditions of product.
   * When the product is in idle condition down “rom file”
   * When the product is in Ready condition (TECH MODE DATA SETUP FLASH UPGRADE LOCAL) copy/b “rom file” lpt1
4. Do not turn off the power while upgrading process.

2) Remote Upgrade

This is a function that a fax with the latest firmware sends files to a fax in long distance through telephone line.

< Method >

1. Before remote upgrade, the latest firmware should be loaded into the machine. (TECH MODE DATA SETUP FLASH UPGRADE REMOTE)
2. Input the fax number, which needs to be upgraded. (Several faxes can be upgraded at the same time. In this case, enter the each fax number.)
3. After push the enter button, send the firmware file by calling to the appointed number. (Around 10~15 minutes needs to send the file.)

< Caution >

1. sending and receiving fax must be the same model.
2. A sending fax must be set up as ECM mode, and a receiving memory must be set up as 100%. If not, the function operates abnormally

S/W of Maintenance

1. Clearing the Memory

• You can selectively clear information stored in your machine s memory.
  1) Press Menu on the control panel until Maintenance appears on the top line of the display.
  2) Press the scroll button (left-key or right-key) until you see Clear Memory on the bottom line and press OK
     - The first available menu item, Clear All Mem. displays on the bottom line.
     - See next page - There are some item to display on the LCD.
  3) Press the scroll button (left-key or right-key) until you see the item you want to clear.
  4) Press Enter. The selected memory is cleared and the display asks you to continue clearing the next item.
  5) To clear another item, press Enter and repeat steps 3 and 4
     - To return to Standby mode, press Stop/Clear.
     - As below item you can selectively clear information stored in your machine s memory.

• Clear All Mem.:
  - Clears all of the data stored in the memory and resets all of your settings to the factory default.
• Paper Setting:
  - Restores all of the Paper Setting options to the factory default.
• Copy Setup:
  - Restores all of the Copy Setup options to the factory default.
• Fax Setup:
  - Restores all of the Fax Setup options to the factory default.
• Fax Feature:
  - Cancels all of the scheduled fax jobs in the machine s memory.
  - As below item you can selectively clear information stored in your machine s memory.
• Advanced Fax:
  - Restores all of the Advanced Fax setting options to the factory default.
• Sound/Volume:
  - Resets the sound and volume settings to the factory default.
• Machine Setup:
  - Resets all of the system settings, such as the machine ID, date and time, display language and save modes, to the factory default.
• Sent Report:
  - Clears all of records of your faxes sent.
• RCV Report:
  - Clears all of records of your faxes received.
• Phone Book:
  - Clears the one-touch, speed and group dial numbers stored in the memory.

2. Adjust shading

• When the scan unit becomes dirty, it can alter the shading value.
• If your copy has black lines or is blurred, adjust the shading setting.
  1) Load a sheet of white paper into the ADF.
  2) Make machine Tech mode.
  3) Press Menu on the control panel and scroll until Machine Test displays.
  4) Scroll to Shading Test and Press OK.
  5) Select Shading&Print appears on the bottom line and press OK.
  6) Your machine picks up the paper and adjusts the shading value.
  7) After adjusting, shading value will be printed with graphic image.

3. Remote Diagnostic System(RDS)

- RDS and FT-EGT Automatic Ordering System, will enhance the quality and the speed of after sales service and monitor the performance of the MFP at the customer site.
- MFP Should be connected by MFP Server.

3.1 Required components of RDS

RDS for MFP system consists of the following three components that communicate with each other

1. Main RDS Server connected to FAX-MODEM.
2. RDS Client Application.
3. RDS on MFP.

3.2 Enable of RDS on MFP

This value is in Tech Mode.
The factory default for Consumables Status Update / Error Proactive value is Disabled.

< Method >

1. MFP Should be connected by RDS Server.
2. Service numbers should have the proper values.
   : TECH MODE -> DATA SETUP -> NOTIFY TONER -> 2.RDS -> Service Number.
3. Machine Serial No. should have the proper values.
   : TECH MODE -> DATA SETUP -> NOTIFY TONER -> 1.Toner -> Serial No.
4. Criter value input is optional, default is set to 1000-page.
   : TECH MODE -> DATA SETUP -> NOTIFY TONER -> 2.RDS -> Criter.Value.
5. Remote Test should be On
   : Maintenance -> Remote -> Test On
6. Change the password : if you forgot the Notify Toner password, enter the new password.
   : TECH MODE -> DATA SETUP -> NOTIFY TONER -> RDS -> RDS Password.
7. If you are to enable the RDS system, Notify Toner option should be [Off].

3.3 Call setup & Release

In order to perform any RDS activity on a Customer MFP, the SVC will have to setup a call to it.

- On successful completion of call setup, one or more RDS functions can be executed before call release is manually initiated.
- When connecting to a device, RDS will query the MFP for serial no. If Serial No. is a zero-length string / invalid string, user will be prompted to enter a valid serial no. for the device. If the user chooses not to enter the serial number at that point, he can enter/edit it later also; Serial number will be configurable just like any other MFP parameter
- Following successful connection, following details of the MFP will be displayed :
  Tel. No, Model, Server Port (that is connected to), Status, Serial Number, Firmware Version, Engine Version, Emulation Version
- In case the established call is dropped due to an error condition, RDS Client Application will notify the user. It will then be necessary to manually request for another call setup to the desired MFP before any RDS function can be reattempted.
- If no activity is detected on a connected call for a maximum duration of 5 minutes (300 seconds), the call will be released / disconnected from the MFP-side.

4.1.5.4 Machine Test

SWITCH TEST
Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

MODEM TEST
Use this feature to hear various transmission signals to the telephone line from the modem and to check the modem. If no transmission signal sound is heard, it means the modem part of the main board malfunctioned.

DRAM TEST
Use this feature to test the machine's DRAM. The result appears in the LCD display.
If all memory is working normally, the LCD shows << O K >>

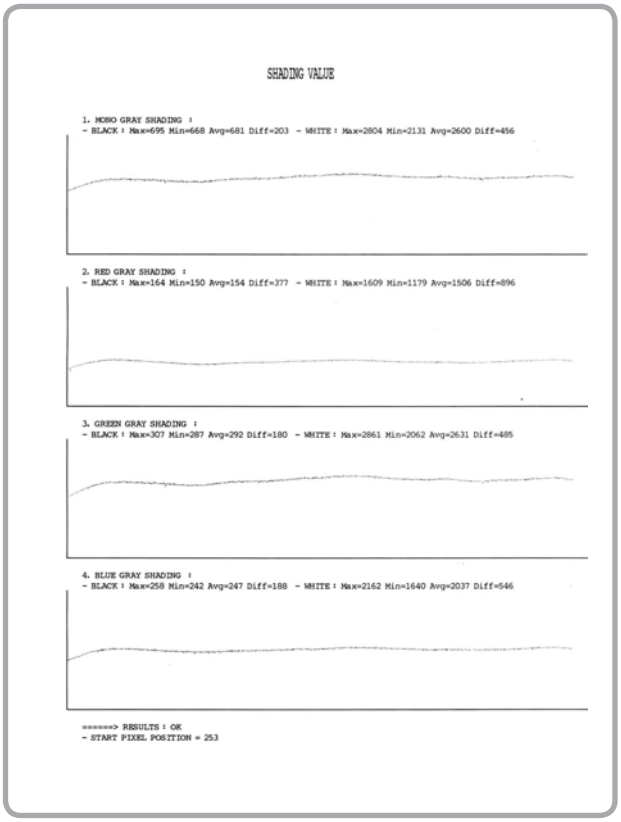
ROM TEST
Use this feature to test the machine'S ROM. The result and the software version appear in the LCD display.
• FLASH VER : 1.00 V
• ENGINE VER :1.00V

PATTERN TEST
Using this pattern printout, you can check if the printer mechanism is functioning properly.
It is needed in the production progress. Service person doesn't need to use it.

SHADING TEST
The function is to get the optimum scan quality by the specific character of the CCD(Charge Coupled Device). If the copy image quality is poor, perform this function to check the condition CCD unit.

< Method >
1. Select the [ADJUST SHADING] at the TECH MODE.
2. Push the SET UP button then an image will be scanned.
3. After the scan, CCD SHADING PROFILE will be print out.
4. If the printed image is different to the image, the CCD is defect.

NOTICE : *When you test CCD, make sure that the cover is closed.*


SHADING VALUE
1. MONO GRAY SHADING :
- BLACK : Max=695 Min=668 Avg=681 Diff=203 - WHITE : Max=2804 Min=2131 Avg=2600 Diff=456
2. RED GRAY SHADING :
- BLACK : Max=164 Min=150 Avg=154 Diff=377 - WHITE : Max=1609 Min=1179 Avg=1506 Diff=896
3. GREEN GRAY SHADING :
- BLACK : Max=307 Min=287 Avg=292 Diff=180 - WHITE : Max=2861 Min=2062 Avg=2631 Diff=485
4. BLUE GRAY SHADING :
- BLACK : Max=258 Min=242 Avg=247 Diff=188 - WHITE : Max=2162 Min=1640 Avg=2037 Diff=546
======> RESULTS : OK
- START PIXEL POSITION = 253

4.1.5.5 Report

PROTOCOL LIST

This list shows the sequence of the CCITT group 3 T.30 protocol during the most recent sending or receiving operation. Use this list to check for send and receive errors. If a communication error occurs while the machine is in TECH mode, the protocol list will print automatically.

OTHER ITEM

This list provides a list of the user system data settings and tech mode settings.

Configuration report

Configuration Report

Date & Time : 24-DEC-2007 22:51 MON
Model Name : SCX-4x28 Series

Options	Item	Status
Default Copies	[1-99]	1
Default Reduce/Enlarge	[Org.(100%)/LGL->LTR(78%)...]	Org.(100%)
Default Darkness	[Light/Normal...]	Normal
Default Original Type	[Text/ Text/Photo...]	Text
Paper Size(Tray 1)	[Letter/A4...]	A4
Paper Size(Manual Feeder)	[Letter/A4...]	A4
Copy Tray	[Tray 1/Tray 2...]	Auto
Paper Type(Tray 1)	[Plain Paper/Bond...]	Plain Paper
Paper Type(Manual Feeder)	[Plain Paper/Bond...]	Plain Paper
Speaker	[On/Off...]	Comm.
Ringer	[Off/Low...]	Mid
Key Sound	[On/Off]	Off
Alarm Sound	[On/Off]	On
Clock Mode	[12 Hours/24 Hours]	24 Hours
Language	[English/FRANCAIS...]	English
Power Save	[5/10/15...]	15 Min
Timeout	[15/30/60...]	30 Sec
Scan PWR Save	[0.5/1/2]	0.5 Hour(s)
Altitude Adjustment	[Plain/High...]	Plain

Firmware/Engine Version	: 1.00.00.18	0.01.21
Emulation Version	: PCL5e 5.69 12-24-2007	PCL6 5.57 11-28-2007
	PS3 1.72.166 11-20-2007	PDF V1.00.50 12-21-2007
	TIFF 0.86.00 01-02-2008	
Installed Date	: 2007. 11. 19	
Total Page Count	: 193	
CRU Prints	: 193	(85%)
ADF/Platen Scan Page Counts	: 0	16
IP Address/Memory Size	: 192.0.0.192	128 Mbyte

supplies information report

Supplies Information Report

Date & Time : 24-DEC-2007 22:52 MON
Model Name : SCX-4x28 Series

Cartridge Information

Toner Remaining	:85%
Equivalent page printed	: 314
Dot Count	: 425021900
Total Page Counts	: 195
Motor on time	: 1519
Clear Toner	: 0
Replaced Toner Counts	: 0
Supplier ID	: PT285EUR

Scan Information

ADF Scan Page Counts	: 0
Platen Scan Page Counts	: 16

Cartridge Information

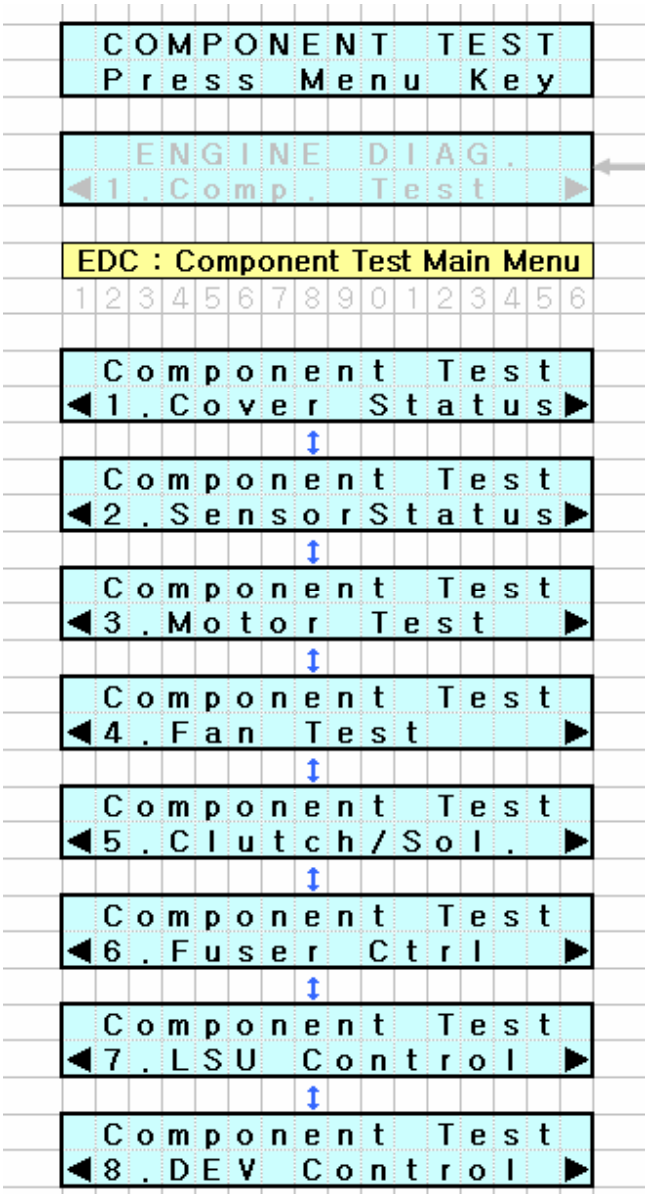
Capacity	: 2 K
Supplier	:
Product Date	:
Serial	: CRUM-INIT___TONER

4.1.6 EDC Mode

EDC Mode is independently controled system f/w and diagnose printer's each function.

■ Method to enter

1. After turn on the system power, check the "Ready" message on the LCD.
2. To enter the EDC Mode, Push the button like next time.
   "Menu → Stop → Left arrow → Back → OK → Right arrow"
3. The message "COMPONENT TEST Press Menu Key" display on the LCD.
4. To get out of the EDC Mode, Press the "Stop" key



■ EDC Mode Menu

0. Cover Status

Item	Description
Front Cover	When the front cover opened, “Open” message display LCD. If the front cover closed, “Closed” message display LCD.

1. Sensor Status

Item	Description
Regi/Feed/Exit Sensor	If actuator is checked by sensor, "Without Paper" message will be displayed. if not, "With Paper" will be.
Empty	If paper exists in the tray, “Present" will be displayed. If not, “Empty" will be.

2. Motor Test

Item	Description
Main Mtr Nor.	If “OK” key is pushed after “ON” displayed, motor will be run. Main motor will auto - stop after 60 seconds and ”OFF” message will be displayed.
Slow	If “OK” key is pushed after “ON” displayed, motor will be slowly run. Main motor will auto - stop after 60 seconds and ”OFF” message will be displayed.

3. Fan Test

Item	Description
Fuser Fan	If “OK” key is pushed after “ON” displayed, fan will be run. Fuser fan will auto - stop after 10 seconds and ”OFF” message will be displayed.
SMPS Fan	If “OK” key is pushed after “ON” displayed, fan will be run. SMPS fan will auto - stop after 10 seconds and ”OFF” message will be displayed.
LSU Fan	If “OK” key is pushed after “ON” displayed, fan will be run. LSU fan will auto - stop after 10 seconds and ”OFF” message will be displayed.

4. Clutch Test

Item	Description
Pick up Clutch	When “OK” key is pushed after ”ON” message displayed, clutch turn on. pick up clutch will be turn off after 3 seconds and ”OFF” message will be displayed.
Regi Clutch	When “OK” key is pushed after ”ON” message displayed, clutch turn on. pick up clutch will be turn off after 3 seconds and ”OFF” message will be displayed.

5. Fuser Ctrl

Item	Description
Temp Control	Fuser on and off. “ON” is selected, fuser will be active and display the fuser temperature [XXX] but “OFF” is selected, fuser will be stop and [0] display
Fuser Temp.	Fuser temperature displayed on LCD (example: [170])

6. LSU Control

Item	Description
LD Power	When “OK” key is pushed after ”ON” message displayed, ”OFF” message will be displayed after 10 seconds
LSU Motor	If “OK” key is pushed after “ON” displayed, motor will be run. LSU motor will auto - stop after 10 seconds and ”OFF” message will be displayed.
LSU Ready	If “OK” key is pushed after “ON” displayed, motor will be run. ”1” message will be displayed.
Hsync	If “OK” key is pushed after “ON” displayed, motor will be run. ”1” message will be displayed.

7. DEV Control

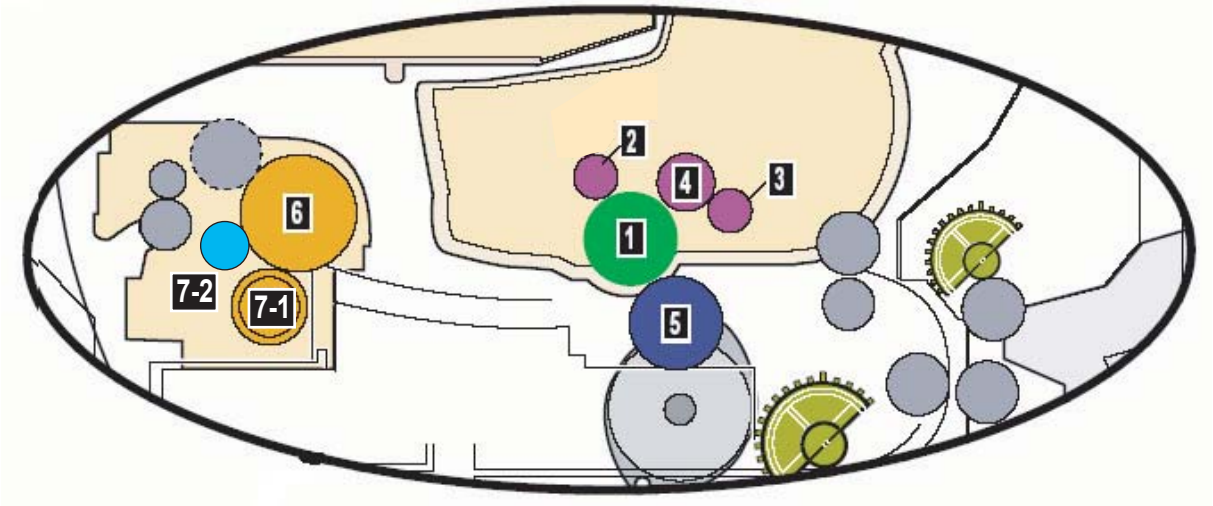
Item	Description
THV (+)	If “OK” key is pushed after “ON” displayed, THV (+) will be turned on.
THV (-)	If “OK” key is pushed after “ON” displayed, THV (-) will be turned on.
Dev Bias	If “OK” key is pushed after “ON” displayed, Dev Bias will be turned on.
MHV Bias	If “OK” key is pushed after “ON” displayed, MHV Bias will be turned on.

■ ACRONYMS AND ABBREVIATIONS

- DEV - Developing High Voltage
- EDC - Embedded Diagnostic Control
- F/W – Firmware
- HVPS – High Voltage Power Supply
- H/W - Hardware
- LD – Laser Diode
- LSU – Laser Scanning Unit
- MHV - Main High Voltage (Charge Voltage)
- OPC - Optical Photo Conductor
- SCF - Second Cassette Feeder
- THV - Transfer High Voltage

4.1.7 Abnormal Image Printing and Defective Roller

If abnormal image prints periodically, check the parts shown below.



No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	75.5mm	White spot, Block Spots
2	Charge Roller	26.7mm	Block Spot and Periodic Band
3	Supply Roller	47.1mm	Periodic Band by little difference of density
4	Developing Roller	35.2mm	White Spot, Horizontal black band
5	Transfer Roller	47mm	Ghost, Damaged Image by abnormal transfer
6	Heat Roller	77.8mm	Black Spots or Vertical Black Band
7-1	Pressure Roller _1st	62.8mm	Blackground
7-2	Pressure Roller _2st	37.7mm	Blackground

4.1.8 Error Message

Messages appear on the control panel display to indicate the machine's status or errors. Refer to the tables below to understand the messages' meaning and correct the problem if necessary. Messages and their meanings are listed in alphabetical order.

• xxx indicates the media type.
• yyy indicates the tray.

Message	Meaning	Suggested solutions
[COMM. Error]	The machine has a communication problem.	Ask the sender to try again.
[Incompatible]	The machine has received a fax from which is registered as a junk fax.	The received fax data will be deleted. Reconfirm junk fax setup.
[Line Error]	Your machine cannot connect with the receiving fax machine or has lost contact because of a problem with the phone line.	Try again. If the problem persists, wait an hour or so for the line to clear and try again. Or, turn the ECM mode on.
[No Answer]	The receiving fax machine has not answered after several redial attempts.	Try again. Make sure that the receiving machine is operational.
[Stop Pressed]	Stop/Clear has been pressed during an operation.	Try again.
[yyy] **Paper Empty**	There is no paper in the tray.	Load paper in the tray.
[yyy] **Paper Mismatch**	The paper size specified in the printer properties does not match the paper you are loading.	Load the correct paper in the tray.
Authentication Failure	The ID or password you entered is incorrect.	Enter the correct ID or password.
Cancel? **◀ Yes ▶**	Your machine's memory has become full while trying to store an original into memory.	To cancel the fax job, press the OK button to accept Yes. If you want to send those pages that have been successfully stored, press the OK button to accept No. You should send the remaining pages later, when memory is available.
Connection Error	Connection with the SMTP server failed.	Check the server settings and the network cable.
Data Read Fail **Check USB Mem.**	Time expired while reading data.	Try again.
Data Write Fail **Check USB Mem.**	Storing to the USB memory failed.	Check the available USB memory space.

Message	Meaning	Suggested solutions
Document Jam	The loaded original has jammed in the ADF.	Clear the jam.
Door Open	The front cover is not securely latched.	Close the cover until it locks into place.
Duplex Jam 0 Check Inside	Paper has jammed during duplex printing. This is applicable only to machines with this feature.	Clear the jam.
Duplex Jam 1 Open/Close Door	Paper has jammed during duplex printing. This is applicable only to machines with this feature.	Clear the jam.
Enter Again	You entered an unavailable item.	Enter the correct item again.
File Format Not Supported	The selected file format is not supported.	Use the correct file format.
Fuser Fan Locked	There is a problem in the cooling fan of the machine.	Open and then close the front cover.
Group Not Available	You have tried to select a group location number where only a single location number can be used, such as when adding locations for a Multiple Send operation.	Use a speed dial number or dial a number manually using the number keypad.
Install Toner	The toner cartridge is not installed.	Install the toner cartridge.
Invalid Toner	The toner cartridge you have installed is not for your machine.	Install the a Samsunggenuine toner cartridge designed for your machine.
IP Conflict	The network IP address you have set is being used by someone else.	Check the IP address and reset it if necessary.
Line Busy	The receiving fax machine did not answer or the line is already engaged.	Try again after a few minutes.
Low Power	The machine is in the previous stage of the power save mode.	When data is received, it switches to on-line automatically.
Mail Exceeds Server Support	The mail size is larger than the supported size by SMTP server.	Divide your mail or reduce the resolution.
Main Motor Locked	There is a problem in the main motor.	Open and then close the front cover.
Memory Full	The memory is full.	Delete unnecessary fax jobs and retransmit after more memory becomes available. Alternatively, split the transmission into more than one operation.
Not Assigned	The speed button or speed dial number you tried to use has no number assigned to it.	Enter the number manually using the number keypad or store the number or address.

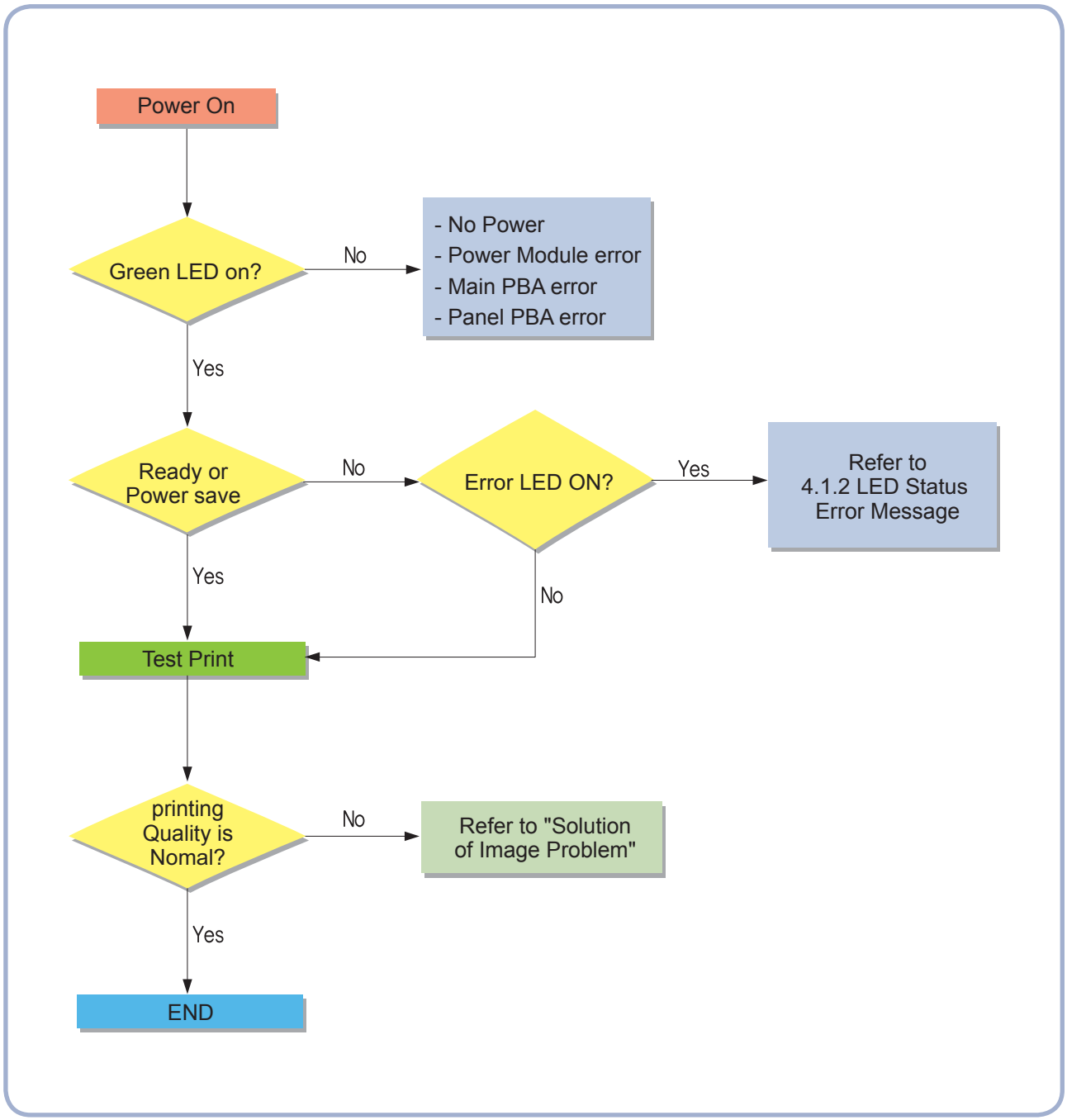
Message	Meaning	Suggested solutions
Not Available Try Again Later	Can not perform the task immediately because too many tasks are running at once.	Try again when current task is completed.
One Page is Too Large	Single page data exceeds the configured mail size.	Reduce the resolution and try again.
Operation Not Assigned	You are in the Add Page/Cancel Job operation, but there are no jobs stored.	Check the display to see if there are any scheduled jobs.
Out-Bin Full	The output tray of the machine is full of paper.	Remove paper.
Paper Jam 0 Open/Close Door	Paper has jammed in the feeding area of the tray.	Clear the jam.
Paper Jam 1 Open/Close Door	Paper has jammed inside the machine.	Clear the jam.
Paper Jam 2 Check Inside	Special print media has jammed in the paper exit area.	Clear the jam.
Replace Toner	This message appears between Toner Empty and Toner Low status.	Replace the toner cartridge with a new one.
Retry Redial?	The machine is waiting for a specified time interval to redial a previously busy station.	You can press OK to immediately redial, or Stop/Clear to cancel the redial operation.
Scanner locked	The scanner module is locked	Unlock the scanner and press Stop/ Clear.
Self Diagnostics Temperature	The engine in your machine is checking problems detected.	Wait a few minutes.
Self Diagnostics LSU	The LSU (Laser Scanning Unit) in your machine is checking problems detected.	Wait a few minutes.
Send Error (AUTH)	There is a problem in SMTP authentication.	Configure the authentication setting.
Send Error (DNS)	There is a problem in DNS.	Configure the DNS setting.
Send Error (POP3)	There is a problem in POP3.	Configure the POP3 setting.
Send Error (SMTP)	There is a problem in SMTP.	Change to the available server.
Send Error (Wrong Config)	There is a problem on the network interface card.	Configure your network interface card correctly.

Message	Meaning	Suggested solutions
Toner Empty	The toner cartridge has run out. The machine stops printing. Press OK to toggle the message to Stop or Continue. ◄ Stop ►	You can select the option among Stop or Continue with the left/right arrow. If you select Stop by pressing OK on the control panel, the machine stops printing. If you select Continue, the machine keeps printing, but the quality cannot be guaranteed. If you do not select any, the machine will work as Stop is selected. Replace the toner cartridge with a new one.
Toner Exhausted	The lifespan of the toner cartridge which the arrow indicates is reached.	This message appears when the toner is completely empty, and your machine stops printing. Replace the corresponding toner cartridge with a Samsunggenuine cartridge.
Toner Low	The corresponding toner cartridge is almost empty.	Take out the toner cartridge and thoroughly shake it. By doing this, you can temporarily reestablish printing operations.
Updating Data **Please Wait...**	This message appears when there is a change in the system setting or when you back up a data.	Do not turn the power off when this message is showing. Changes may not be saved and datas can be lost.

4.2 Troubleshooting

4.2.1 Procedure of Checking the Symptoms

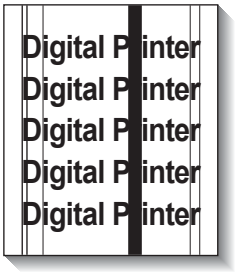
Before attempting to repair the printer first obtain a detailed description of the problem from the customer.

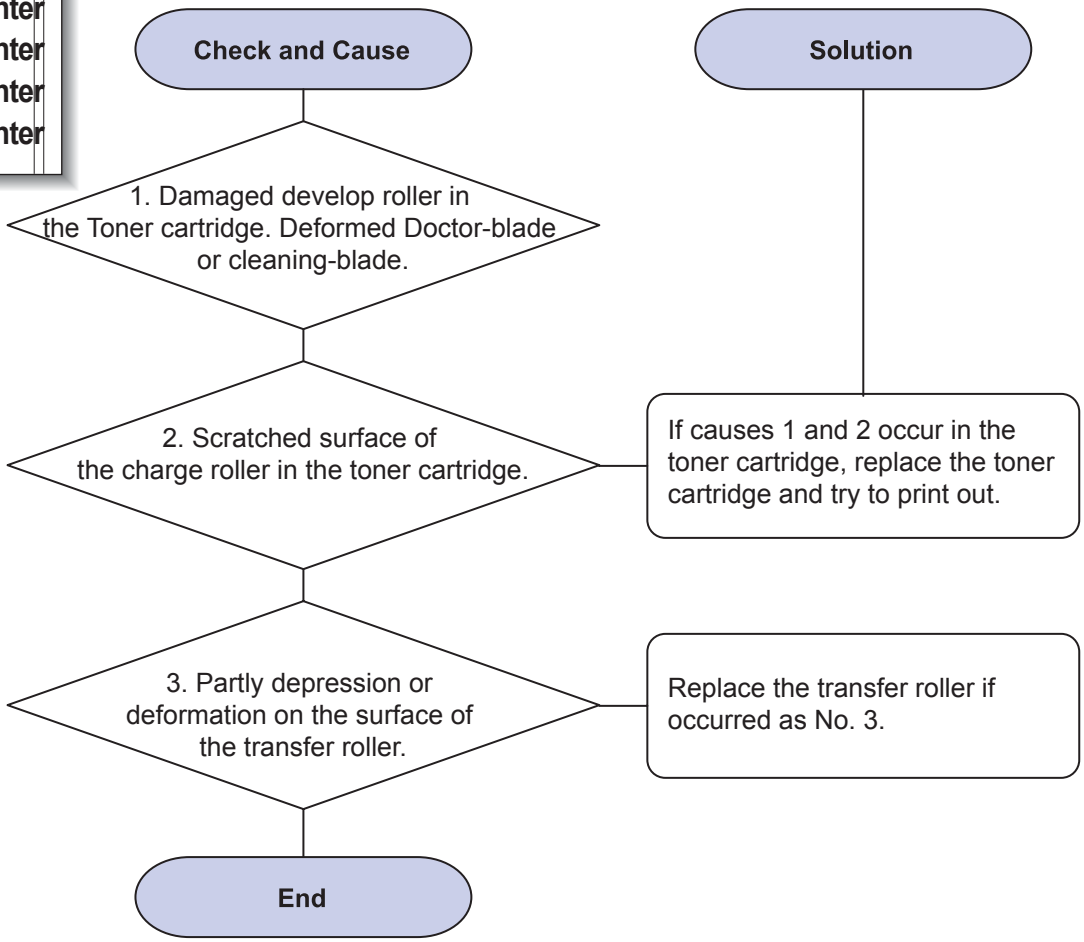


4.2.2 The cause and solution of Bad image

1) Vertical Black Line and Band

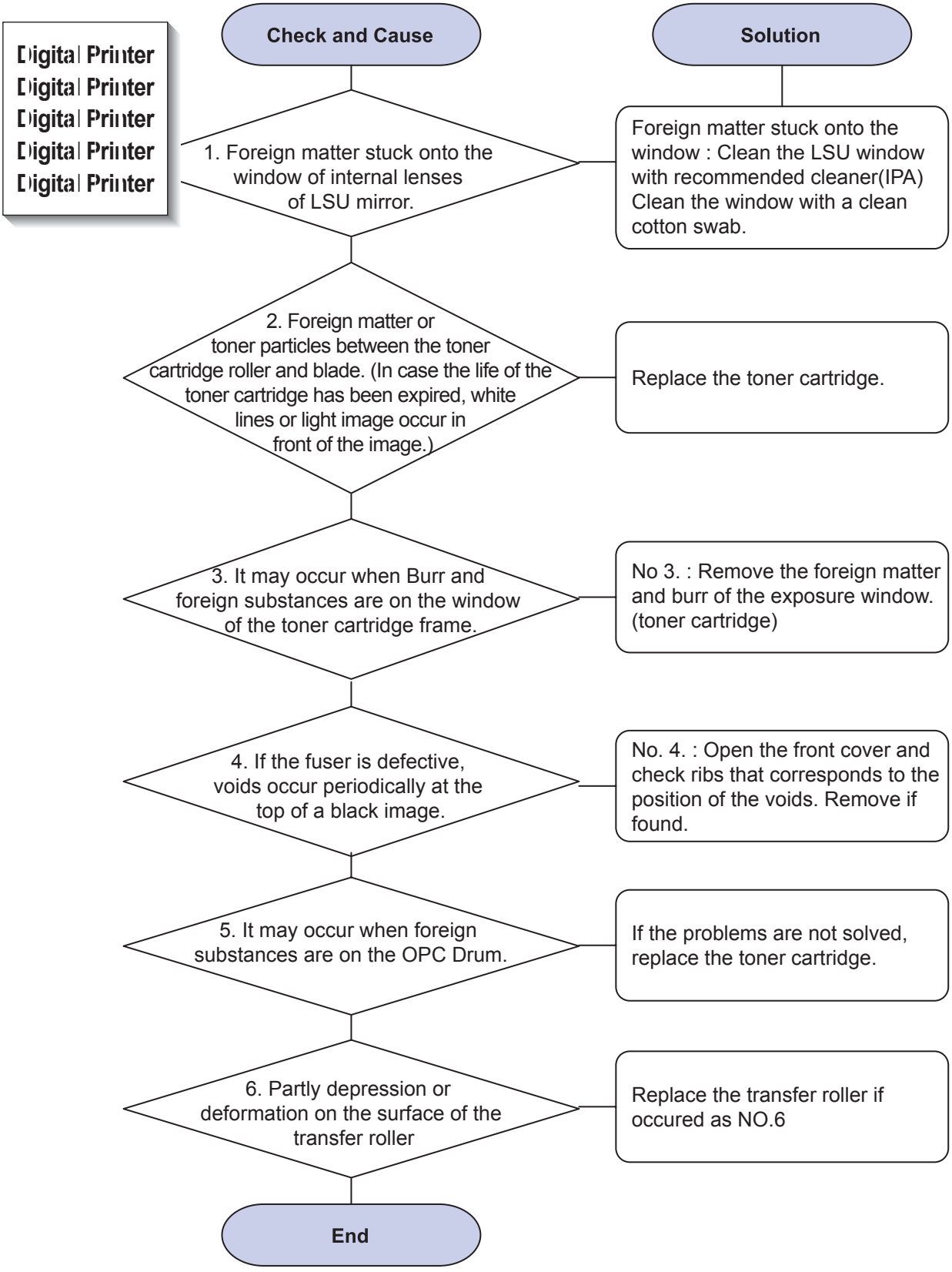
Description : 1. Straight thin black vertical line occurs in the printing.
2. Dark black vertical band occur in the printing.




Check and Cause
Solution
1. Damaged develop roller in the Toner cartridge. Deformed Doctor-blade or cleaning-blade.
2. Scratched surface of the charge roller in the toner cartridge.
If causes 1 and 2 occur in the toner cartridge, replace the toner cartridge and try to print out.
3. Partly depression or deformation on the surface of the transfer roller.
Replace the transfer roller if occurred as No. 3.
End

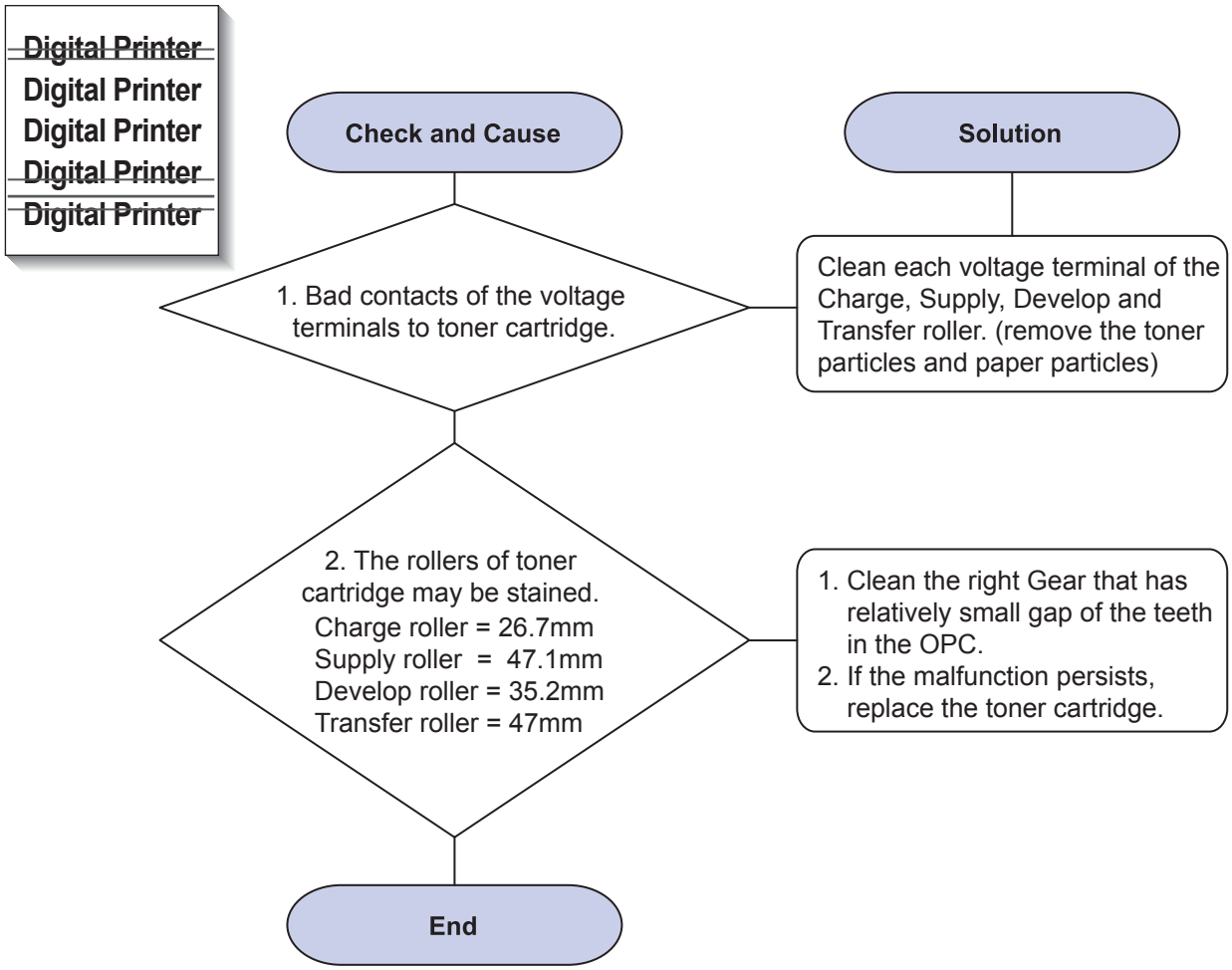
2) Vertical White Line

Description : White vertical voids in the image.


Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer
Check and Cause
Solution
1. Foreign matter stuck onto the window of internal lenses of LSU mirror.
Foreign matter stuck onto the window : Clean the LSU window with recommended cleaner(IPA) Clean the window with a clean cotton swab.
2. Foreign matter or toner particles between the toner cartridge roller and blade. (In case the life of the toner cartridge has been expired, white lines or light image occur in front of the image.)
Replace the toner cartridge.
3. It may occur when Burr and foreign substances are on the window of the toner cartridge frame.
No 3. : Remove the foreign matter and burr of the exposure window. (toner cartridge)
4. If the fuser is defective, voids occur periodically at the top of a black image.
No. 4. : Open the front cover and check ribs that corresponds to the position of the voids. Remove if found.
5. It may occur when foreign substances are on the OPC Drum.
If the problems are not solved, replace the toner cartridge.
6. Partly depression or deformation on the surface of the transfer roller
Replace the transfer roller if occured as NO.6
End

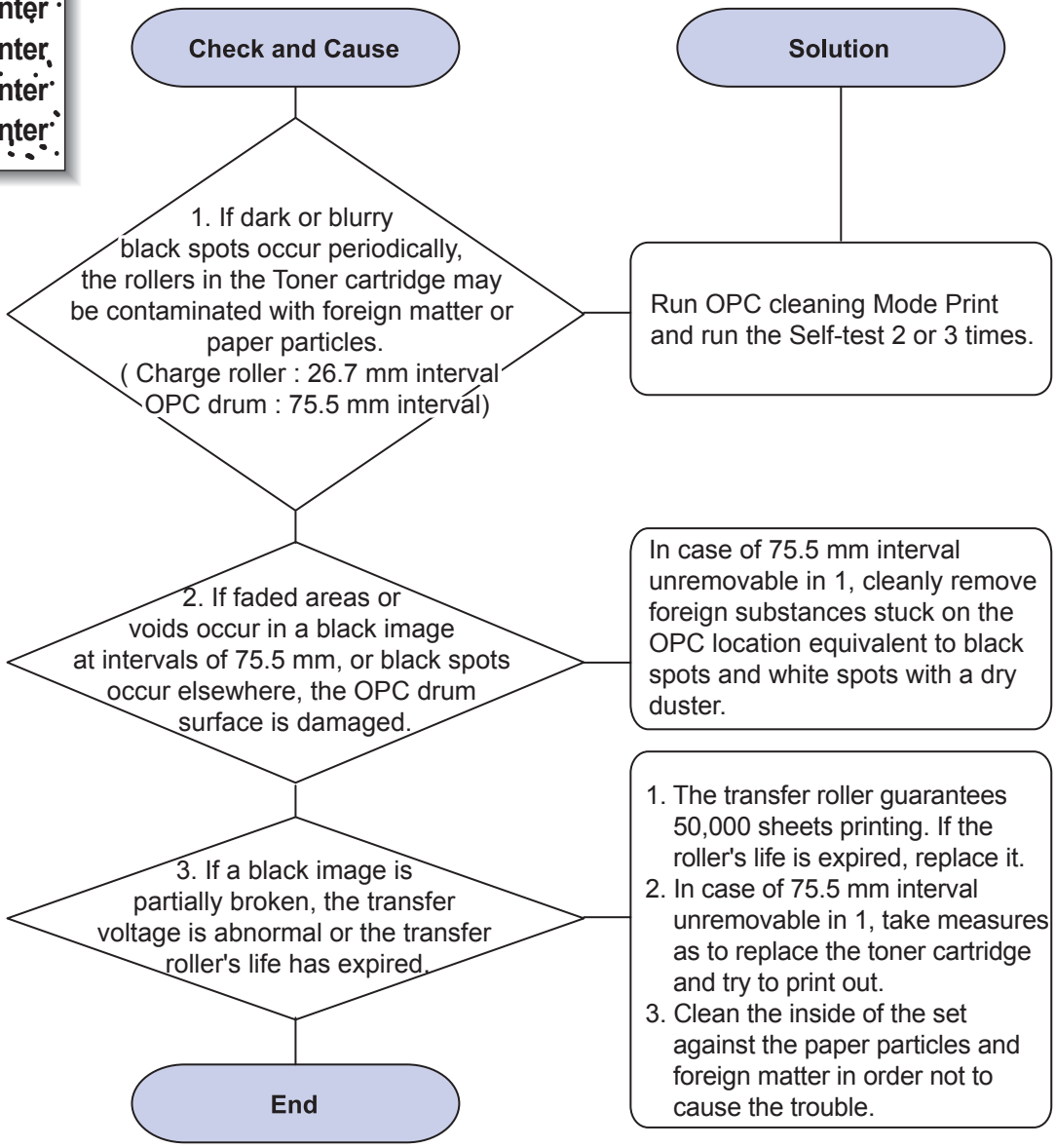
3) Horizontal Black Band

Description : Dark or blurry horizontal stripes occur in the printing periodically. (They may not occur periodically.)


Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer
Check and Cause
Solution
1. Bad contacts of the voltage terminals to toner cartridge.
Clean each voltage terminal of the Charge, Supply, Develop and Transfer roller. (remove the toner particles and paper particles)
2. The rollers of toner cartridge may be stained.
Charge roller = 26.7mm
Supply roller = 47.1mm
Develop roller = 35.2mm
Transfer roller = 47mm
1. Clean the right Gear that has relatively small gap of the teeth in the OPC.
2. If the malfunction persists, replace the toner cartridge.
End

4) Black/White Spot

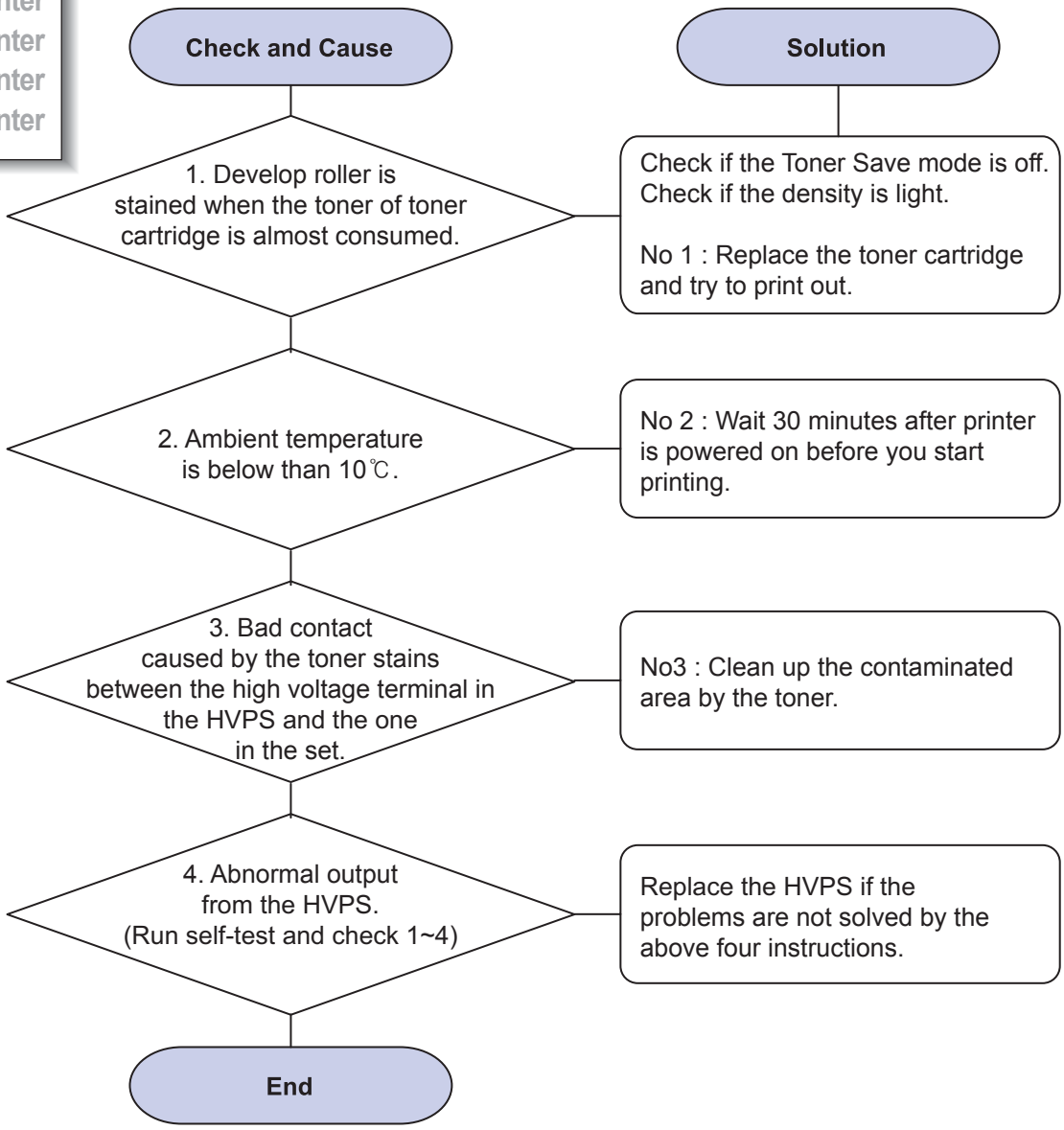
Description : 1. Dark or blurry spots occur periodically in the printing
2. White spots occur periodically in the printing


Check and Cause
Solution
1. If dark or blurry black spots occur periodically, the rollers in the Toner cartridge may be contaminated with foreign matter or paper particles. (Charge roller : 26.7 mm interval OPC drum : 75.5 mm interval)
Run OPC cleaning Mode Print and run the Self-test 2 or 3 times.
2. If faded areas or voids occur in a black image at intervals of 75.5 mm, or black spots occur elsewhere, the OPC drum surface is damaged.
In case of 75.5 mm interval unremovable in 1, cleanly remove foreign substances stuck on the OPC location equivalent to black spots and white spots with a dry duster.
3. If a black image is partially broken, the transfer voltage is abnormal or the transfer roller's life has expired.
1. The transfer roller guarantees 50,000 sheets printing. If the roller's life is expired, replace it.
2. In case of 75.5 mm interval unremovable in 1, take measures as to replace the toner cartridge and try to print out.
3. Clean the inside of the set against the paper particles and foreign matter in order not to cause the trouble.
End

5) Light Image

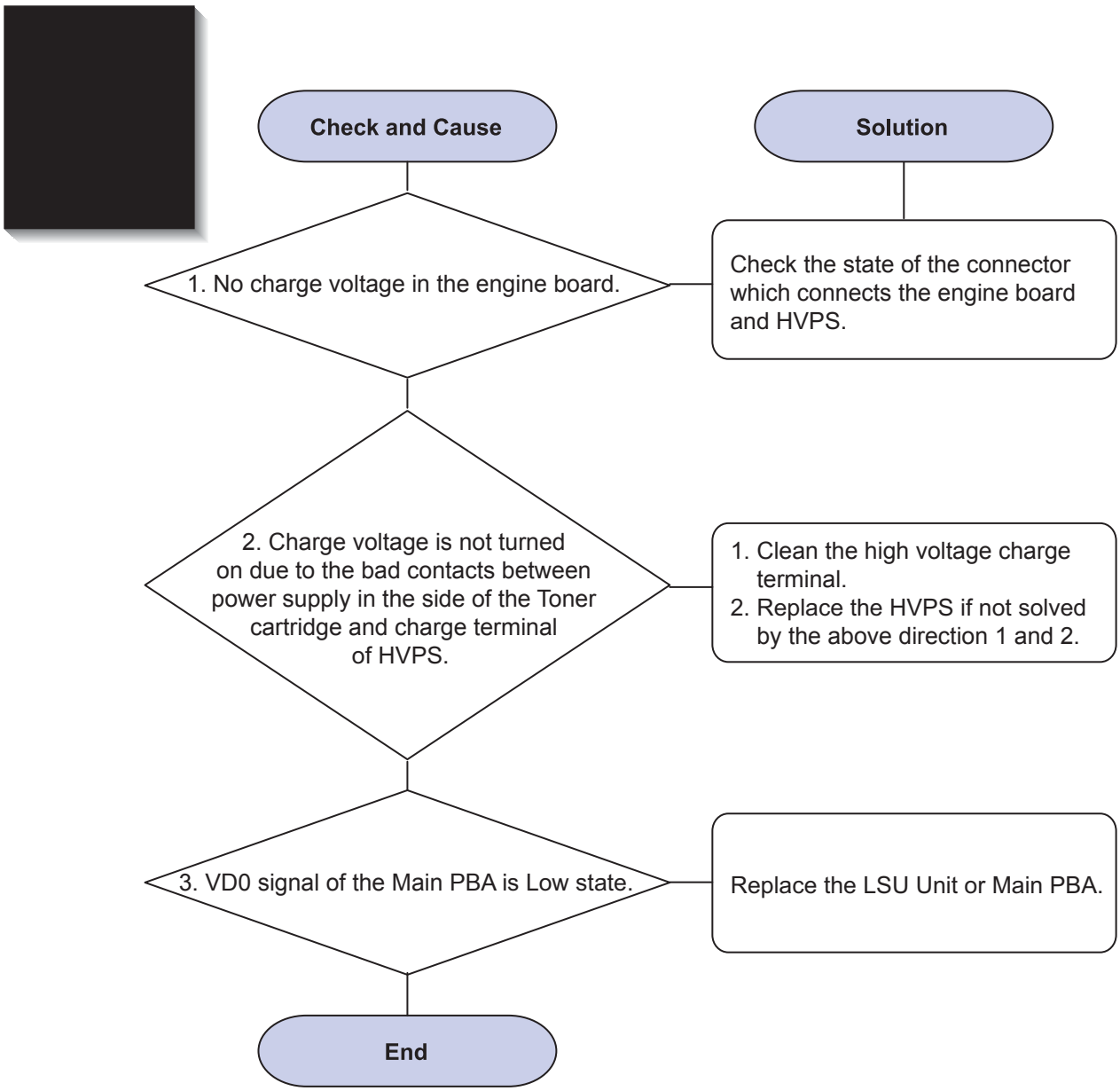
Description : The printed image is light, with no ghost.

Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer


Check and Cause
Solution
1. Develop roller is stained when the toner of toner cartridge is almost consumed.
Check if the Toner Save mode is off. Check if the density is light.
No 1 : Replace the toner cartridge and try to print out.
2. Ambient temperature is below than 10℃.
No 2 : Wait 30 minutes after printer is powered on before you start printing.
3. Bad contact caused by the toner stains between the high voltage terminal in the HVPS and the one in the set.
No3 : Clean up the contaminated area by the toner.
4. Abnormal output from the HVPS. (Run self-test and check 1~4)
Replace the HVPS if the problems are not solved by the above four instructions.
End

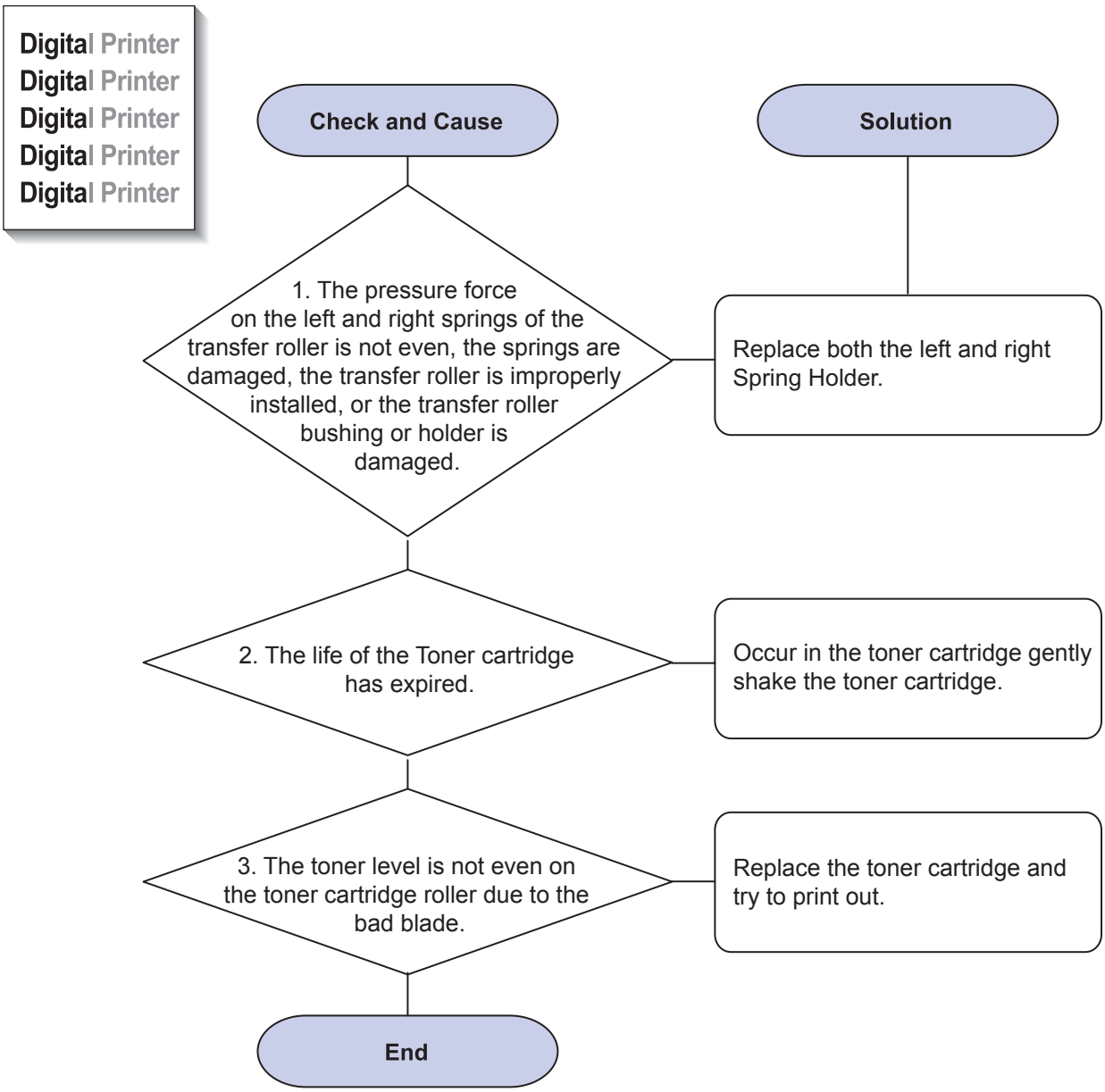
6) Dark Image or a Black Page

Description : The printed image is dark.


Check and Cause
Solution
1. No charge voltage in the engine board.
Check the state of the connector which connects the engine board and HVPS.
2. Charge voltage is not turned on due to the bad contacts between power supply in the side of the Toner cartridge and charge terminal of HVPS.
1. Clean the high voltage charge terminal.
2. Replace the HVPS if not solved by the above direction 1 and 2.
3. VD0 signal of the Main PBA is Low state.
Replace the LSU Unit or Main PBA.
End

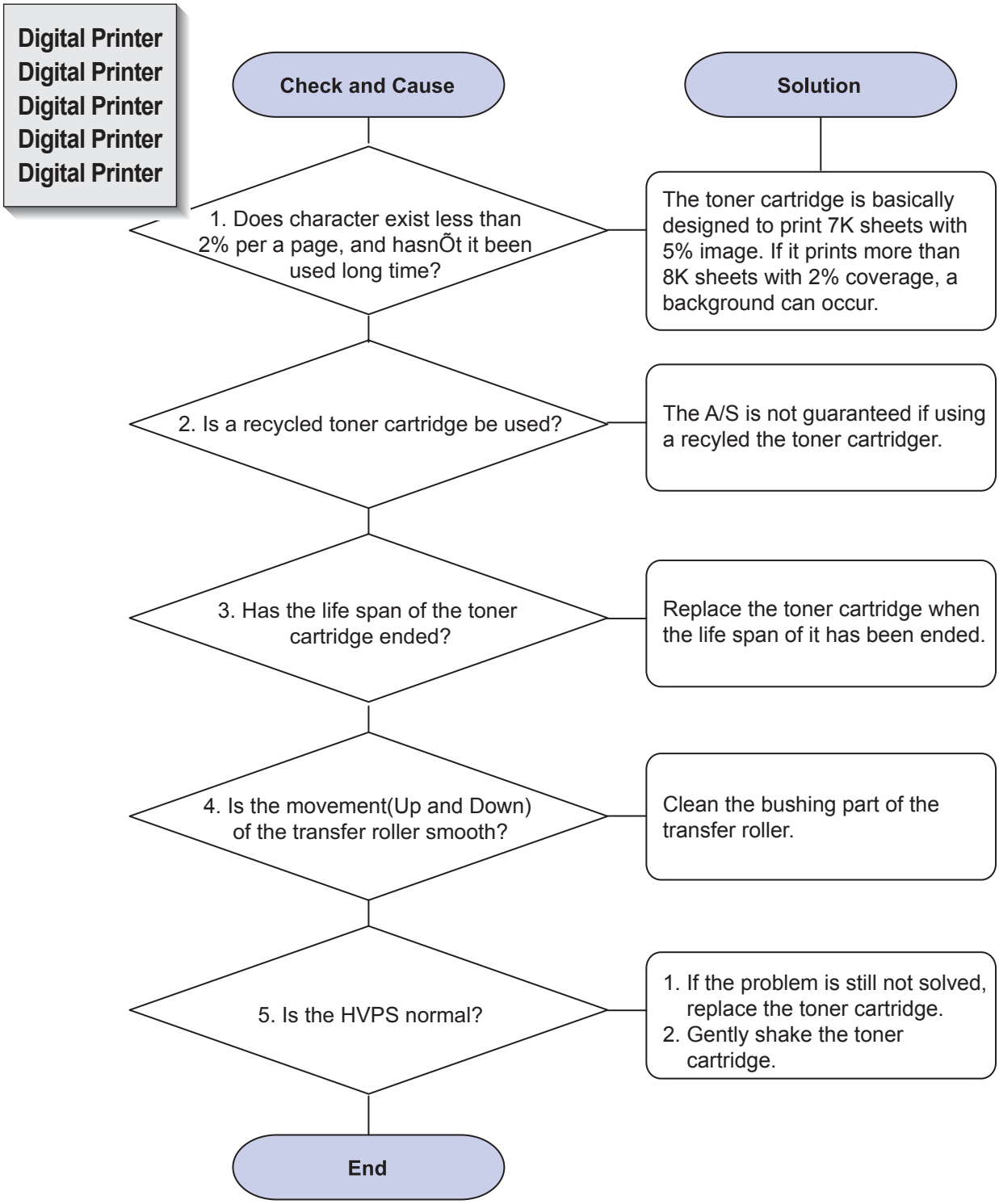
7) Uneven Density

Description : Print Density is uneven between left and right.


Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer
Check and Cause
Solution
1. The pressure force on the left and right springs of the transfer roller is not even, the springs are damaged, the transfer roller is improperly installed, or the transfer roller bushing or holder is damaged.
Replace both the left and right Spring Holder.
2. The life of the Toner cartridge has expired.
Occur in the toner cartridge gently shake the toner cartridge.
3. The toner level is not even on the toner cartridge roller due to the bad blade.
Replace the toner cartridge and try to print out.
End

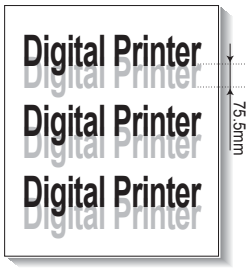
8) Background

Description : Light dark background appears in whole area of the printing.


Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer
Check and Cause
Solution
1. Does character exist less than 2% per a page, and hasnÕt it been used long time?
The toner cartridge is basically designed to print 7K sheets with 5% image. If it prints more than 8K sheets with 2% coverage, a background can occur.
2. Is a recycled toner cartridge be used?
The A/S is not guaranteed if using a recyled the toner cartridger.
3. Has the life span of the toner cartridge ended?
Replace the toner cartridge when the life span of it has been ended.
4. Is the movement(Up and Down) of the transfer roller smooth?
Clean the bushing part of the transfer roller.
5. Is the HVPS normal?
1. If the problem is still not solved, replace the toner cartridge.
2. Gently shake the toner cartridge.
End

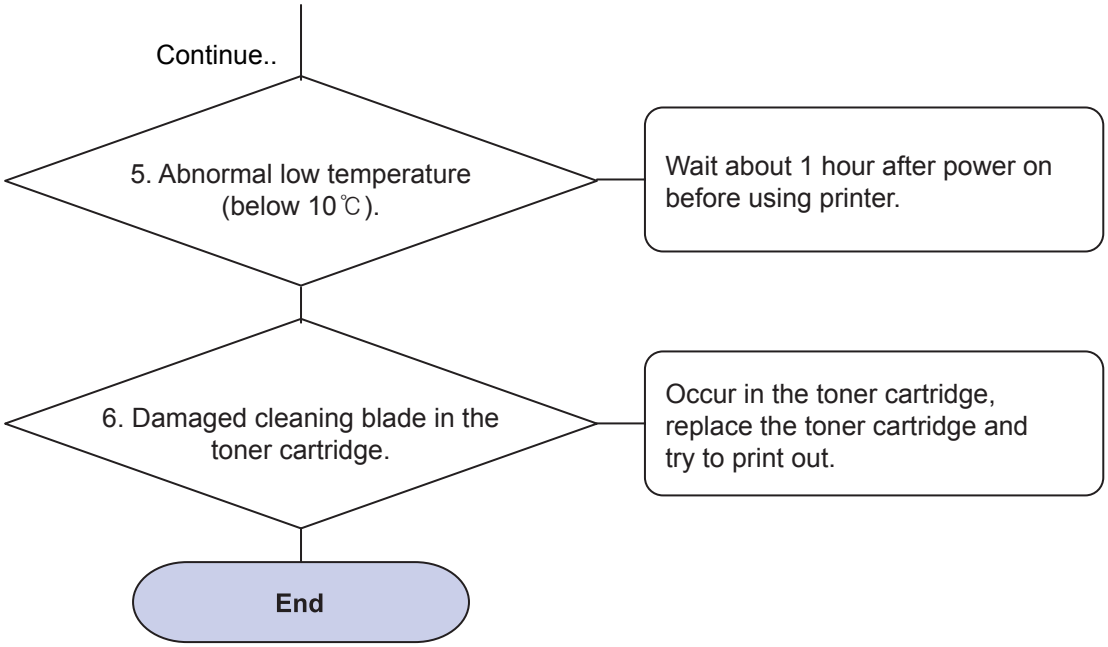
9) Ghost (1)

Description : Ghost occurs at 75.5 mm intervals of the OPC drum in the whole printing.



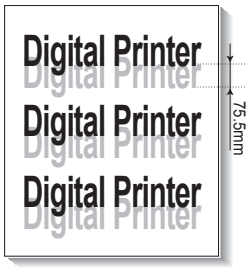
Check and Cause	Solution
1. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the electrode of the Toner cartridge.	Clean the terminals when contaminated by toner particles.
2. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the one in the HVPS board.	Occur in the toner cartridge, replace the toner cartridge and try to print out.
3. The life of toner cartridge is expired.	Replace the engine board if not solved by the above directions 1-2.
4. Transfer roller lifetime(50K sheets) has expired.	If not solved by the direction 3, check the transfer roller lifetime and replace it.

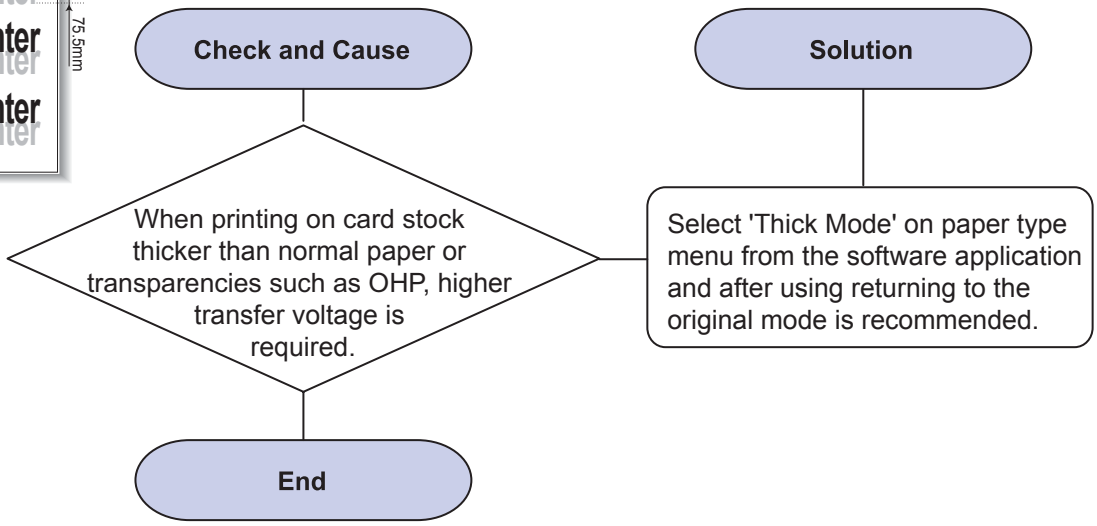
Continue..


Continue..
5. Abnormal low temperature (below 10℃).
Wait about 1 hour after power on before using printer.
6. Damaged cleaning blade in the toner cartridge.
Occur in the toner cartridge, replace the toner cartridge and try to print out.
End

10) Ghost (2)

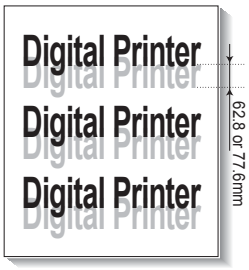
**Description : Ghost occurs at 75.5 mm intervals of the OPC drum in the whole printing.
(When printing on card stock or transparencies using manual feeder)**

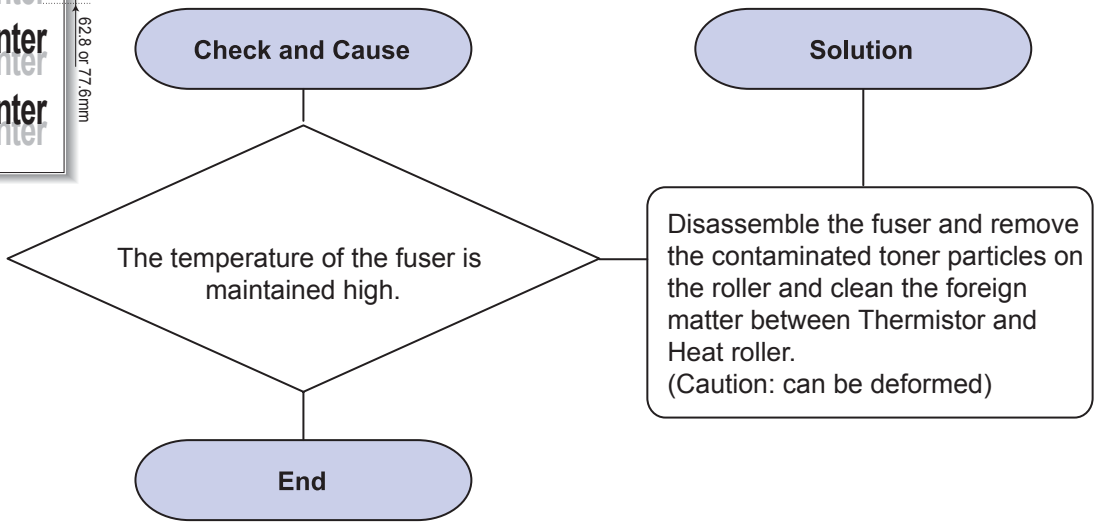



Check and Cause
Solution
When printing on card stock thicker than normal paper or transparencies such as OHP, higher transfer voltage is required.
Select 'Thick Mode' on paper type menu from the software application and after using returning to the original mode is recommended.
End

11) Ghost (3) : Fuser

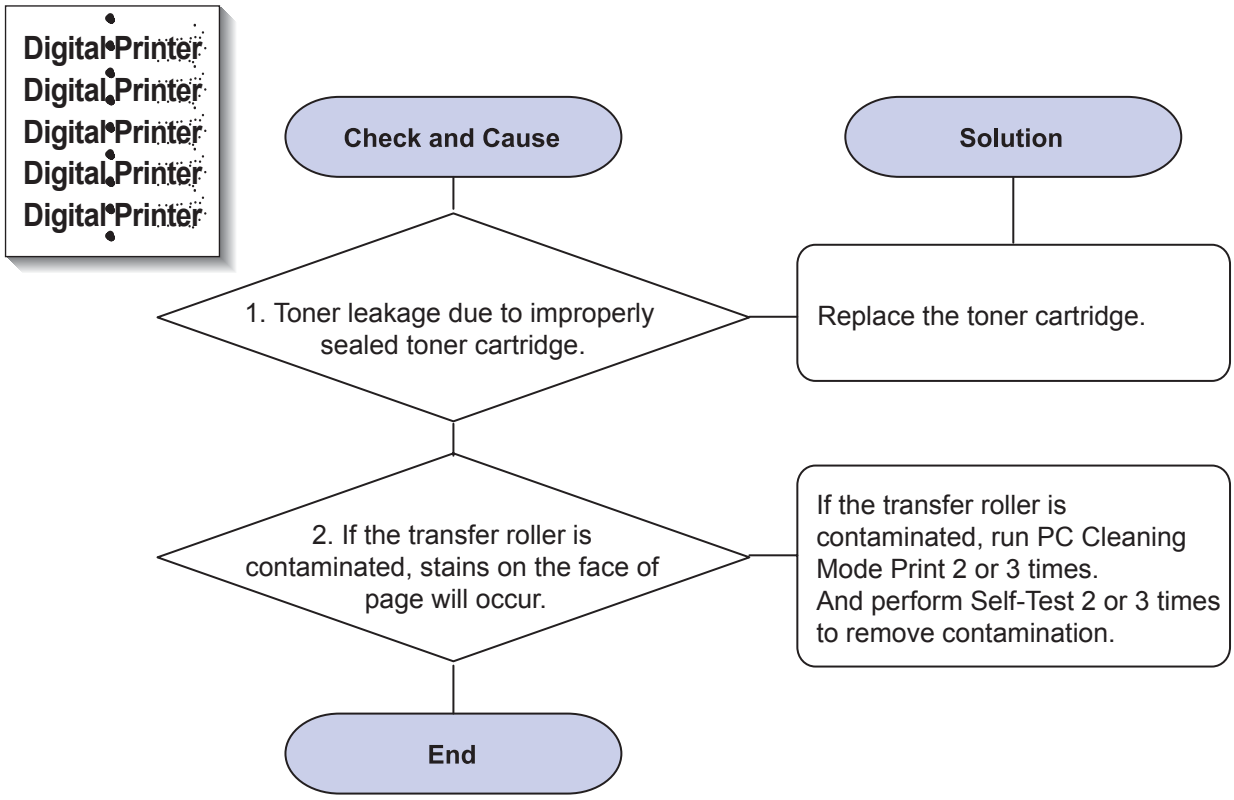
Description : Ghost occurs at 62.8 mm or 77.6mm intervals.




Check and Cause
Solution
The temperature of the fuser is maintained high.
Disassemble the fuser and remove the contaminated toner particles on the roller and clean the foreign matter between Thermistor and Heat roller.
(Caution: can be deformed)
End

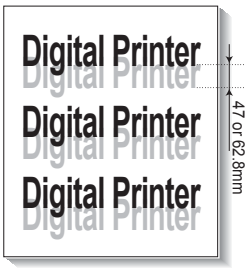
12) Stains on the Face of Page

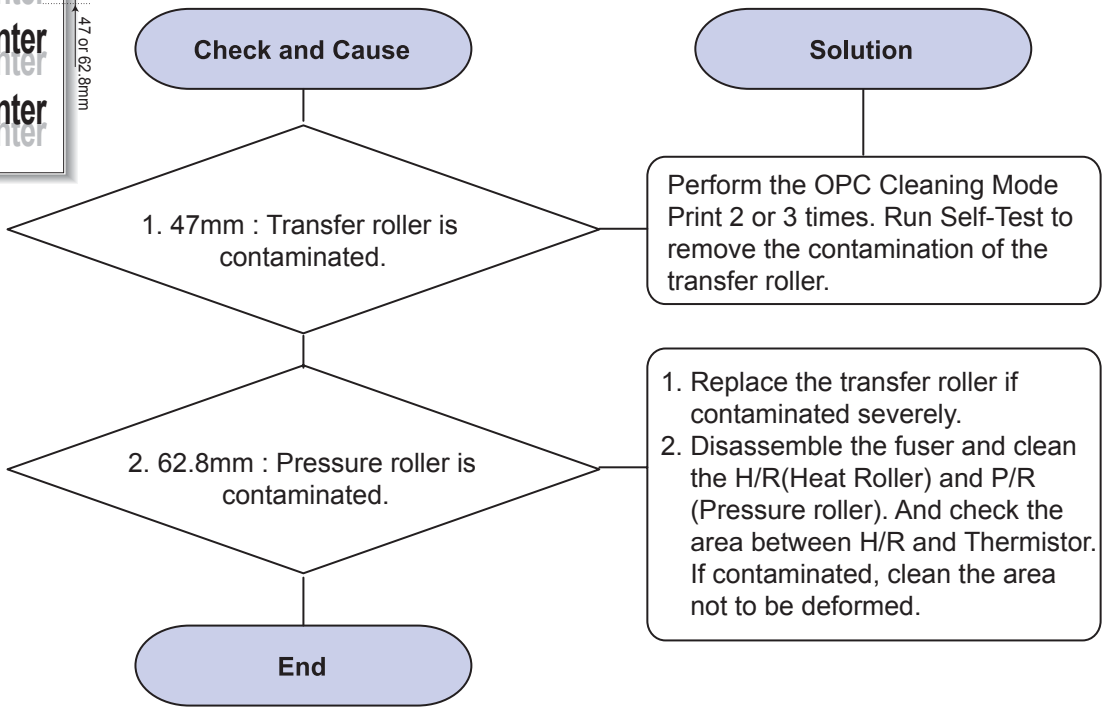
Description : The background on the face of the printed page is stained.


Digital Printer
Digital Printer
Digital Printer
Digital Printer
Digital Printer
Check and Cause
Solution
1. Toner leakage due to improperly sealed toner cartridge.
Replace the toner cartridge.
2. If the transfer roller is contaminated, stains on the face of page will occur.
If the transfer roller is contaminated, run PC Cleaning Mode Print 2 or 3 times.
And perform Self-Test 2 or 3 times to remove contamination.
End

13) Stains on Back of Page

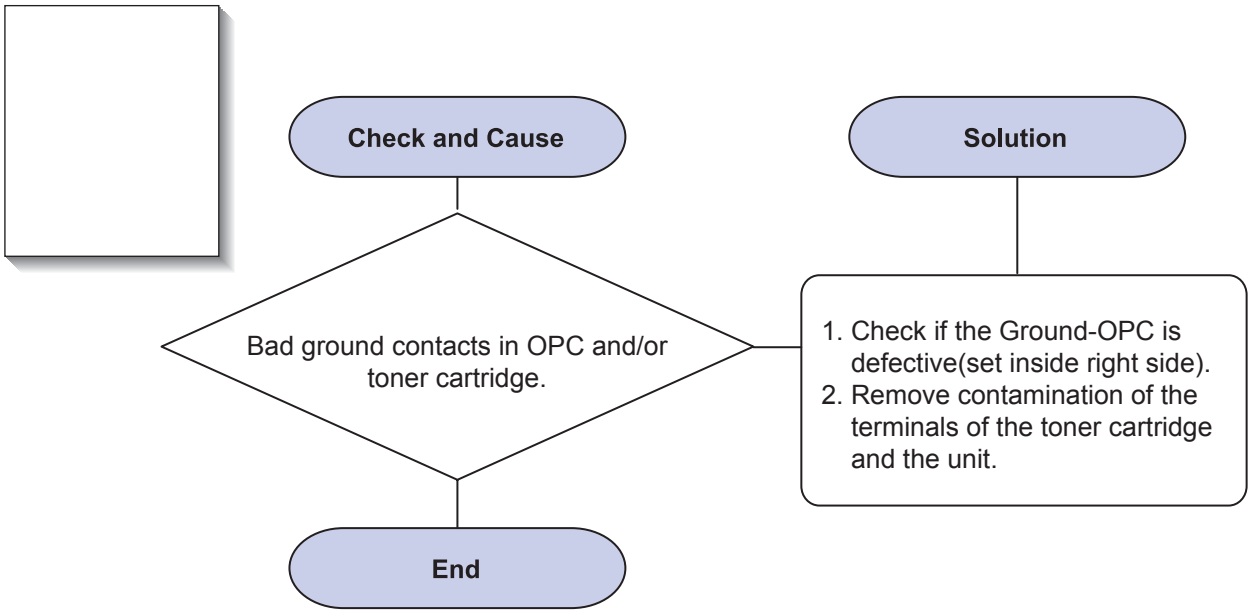
Description : The back of the page is stained at 47 mm or 62.8mm intervals.




Check and Cause
Solution
1. 47mm : Transfer roller is contaminated.
Perform the OPC Cleaning Mode Print 2 or 3 times. Run Self-Test to remove the contamination of the transfer roller.
2. 62.8mm : Pressure roller is contaminated.
1. Replace the transfer roller if contaminated severely.
2. Disassemble the fuser and clean the H/R(Heat Roller) and P/R (Pressure roller). And check the area between H/R and Thermistor. If contaminated, clean the area not to be deformed.
End

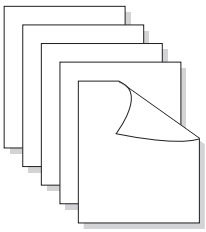
14) Blank Page Print out (1)

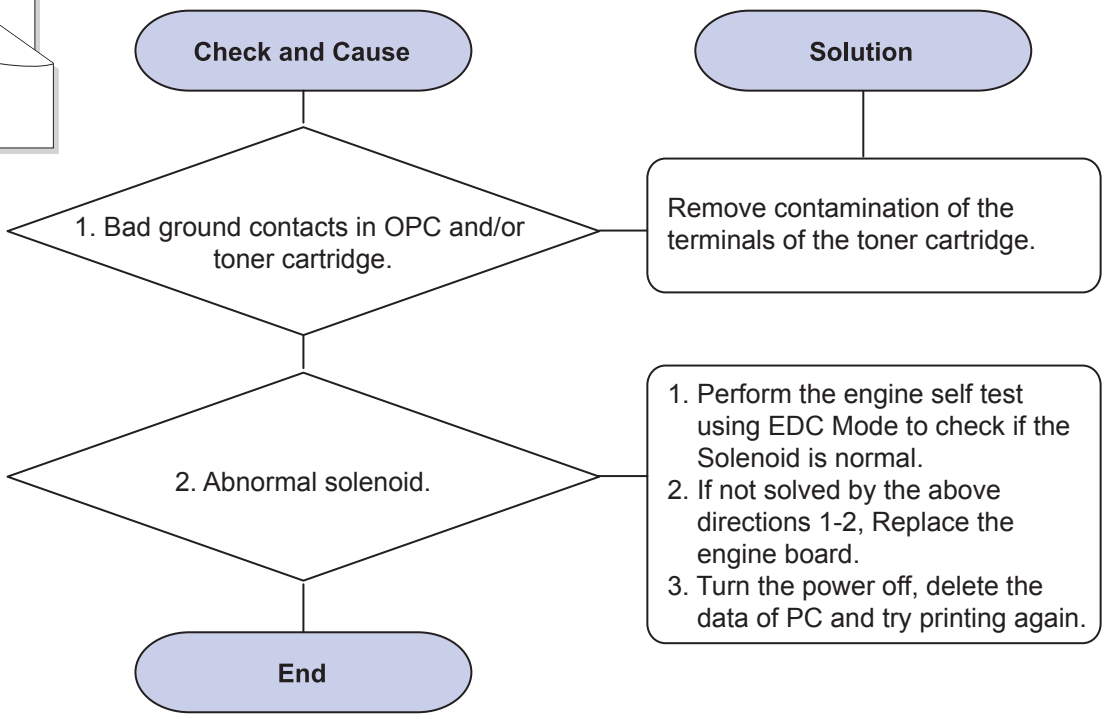
Description : Blank page is printed.


Check and Cause
Solution
Bad ground contacts in OPC and/or toner cartridge.
1. Check if the Ground-OPC is defective(set inside right side).
2. Remove contamination of the terminals of the toner cartridge and the unit.
End

15) Blank Page Print out (2)

Description : 1. Blank page is printed.
2. One or several blank pages are printed.
3. When the printer turns on, several blank pages print.

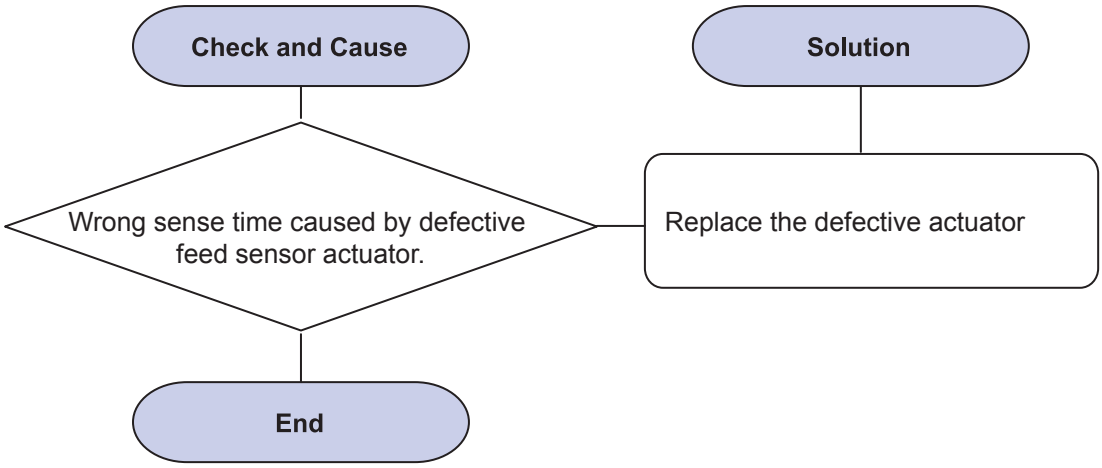



Check and Cause
Solution
1. Bad ground contacts in OPC and/or toner cartridge.
Remove contamination of the terminals of the toner cartridge.
2. Abnormal solenoid.
1. Perform the engine self test using EDC Mode to check if the Solenoid is normal.
2. If not solved by the above directions 1-2, Replace the engine board.
3. Turn the power off, delete the data of PC and try printing again.
End

4.2.3 The cause and solution of the bad discharge

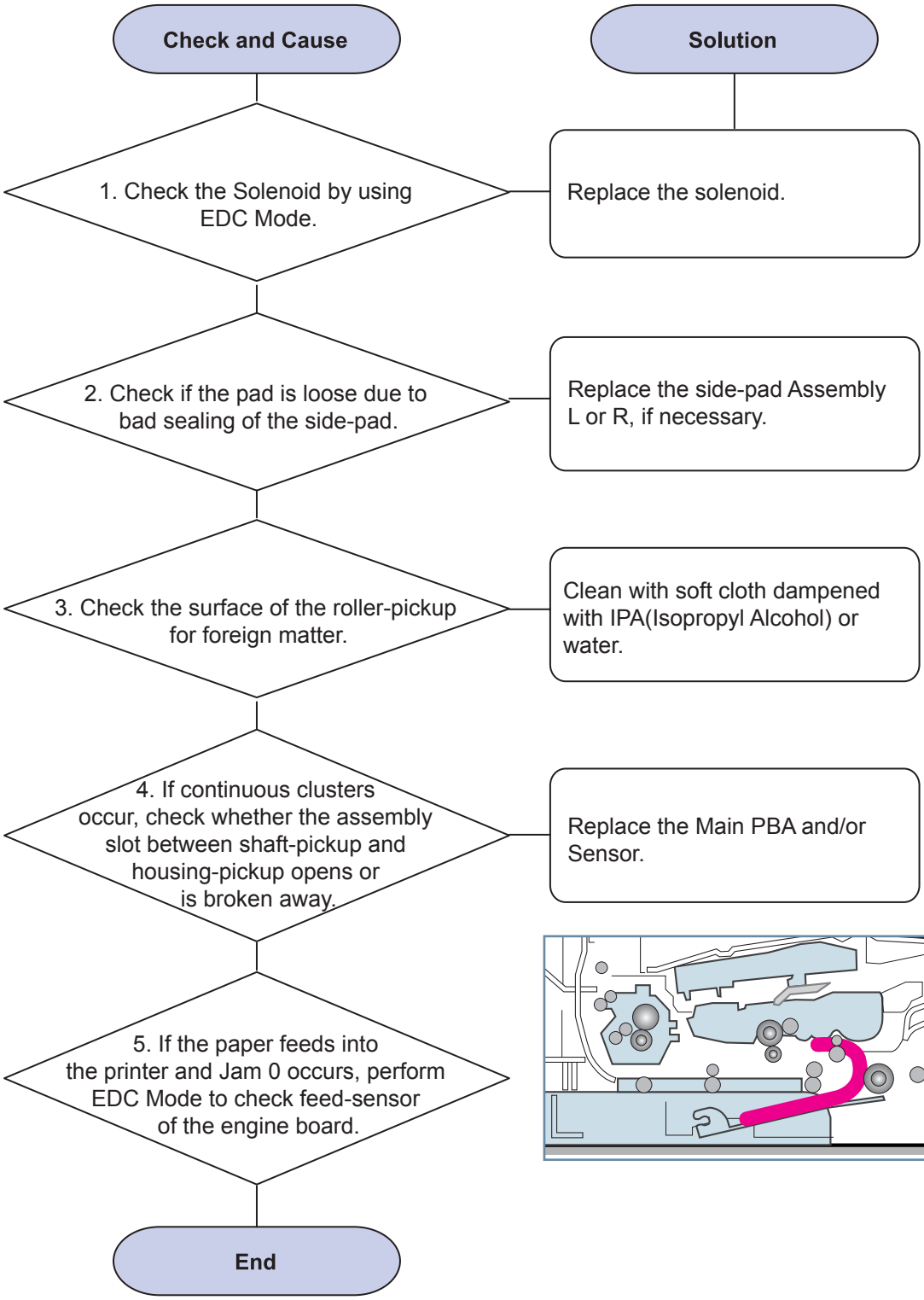
1) Wrong Print Position

Description : Printing begins at wrong position on the paper.



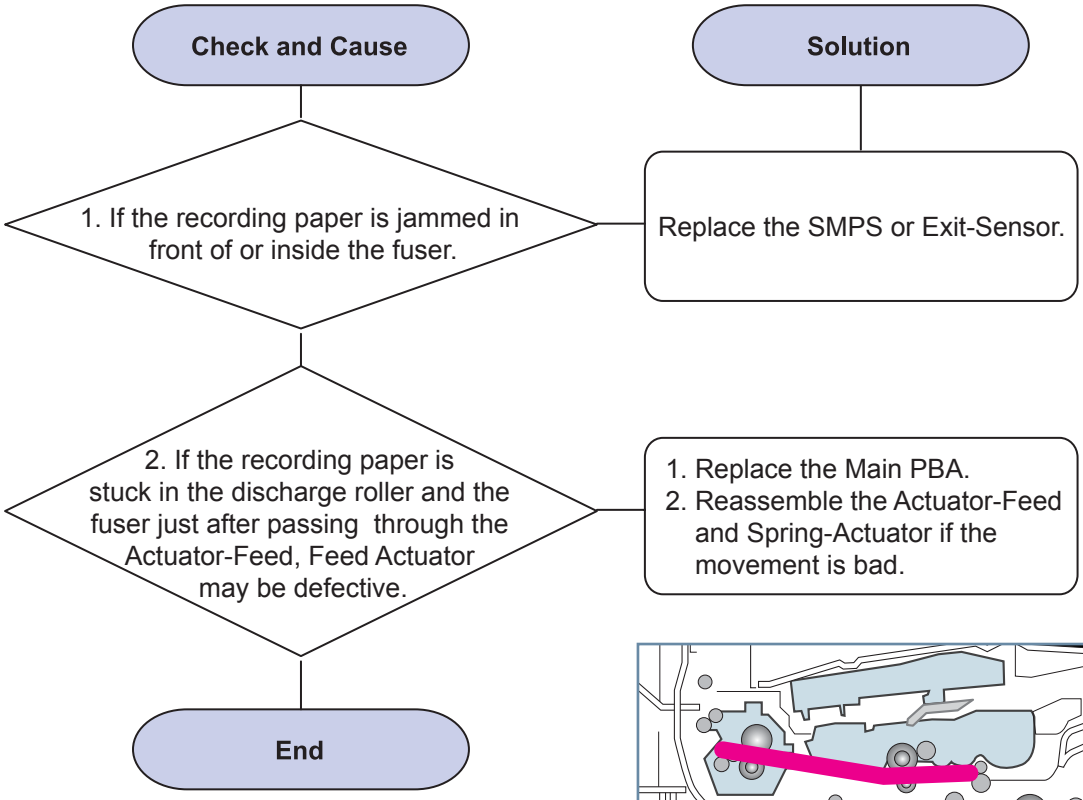
2) JAM 0

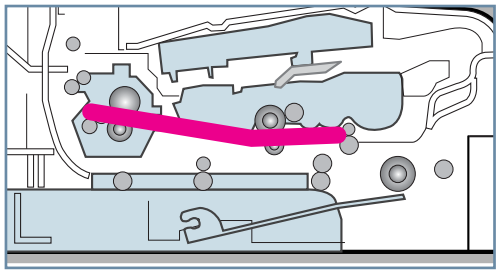
Description : 1. Paper is not exited from the cassette.
2. Jam-0 occurs when the paper feeds into the printer


Check and Cause
Solution
1. Check the Solenoid by using EDC Mode.
Replace the solenoid.
2. Check if the pad is loose due to bad sealing of the side-pad.
Replace the side-pad Assembly L or R, if necessary.
3. Check the surface of the roller-pickup for foreign matter.
Clean with soft cloth dampened with IPA(Isopropyl Alcohol) or water.
4. If continuous clusters occur, check whether the assembly slot between shaft-pickup and housing-pickup opens or is broken away.
Replace the Main PBA and/or Sensor.
5. If the paper feeds into the printer and Jam 0 occurs, perform EDC Mode to check feed-sensor of the engine board.
End

3) JAM 1

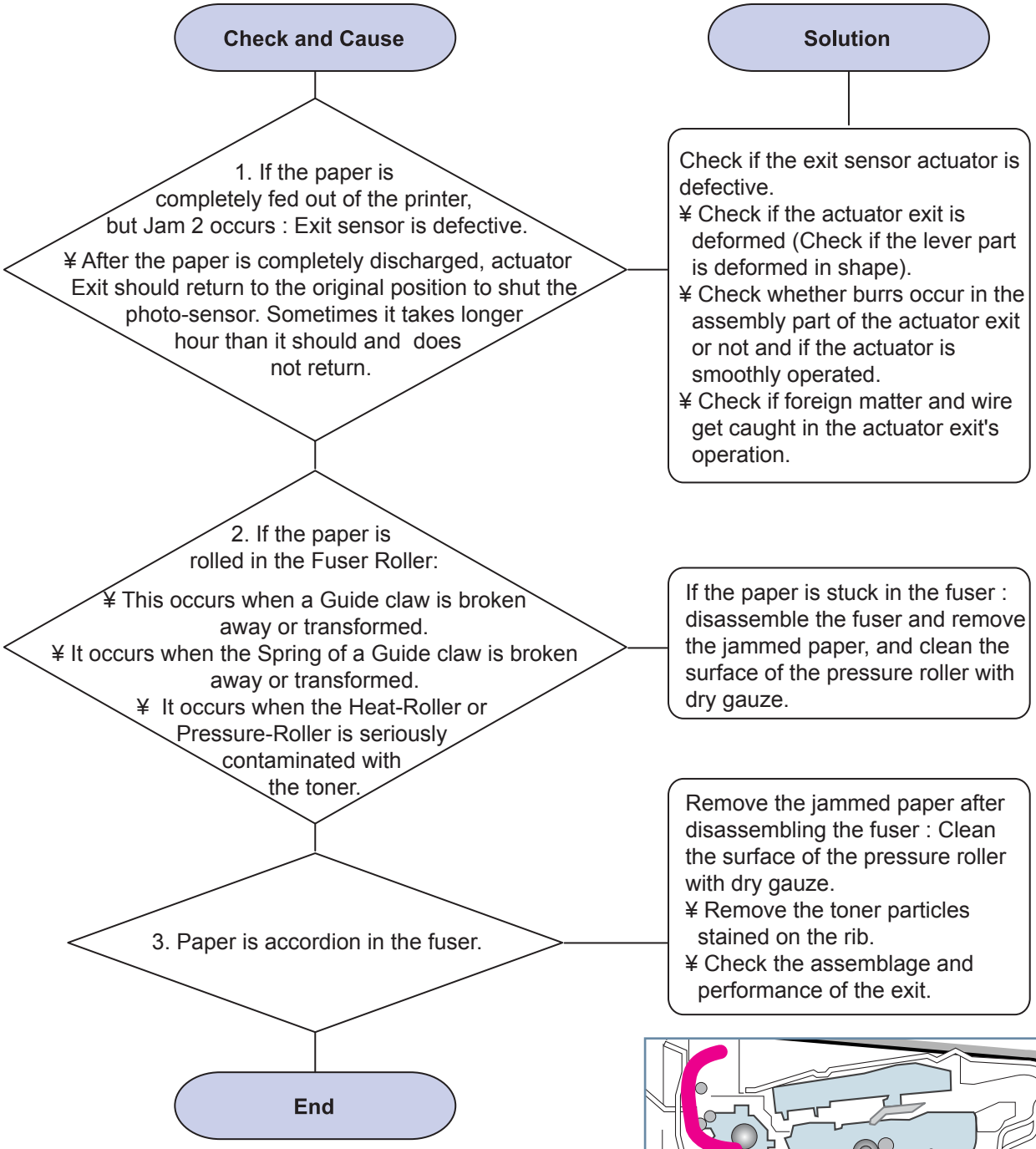
Description : 1. Recording paper is jammed in front of or inside the fuser.
2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.

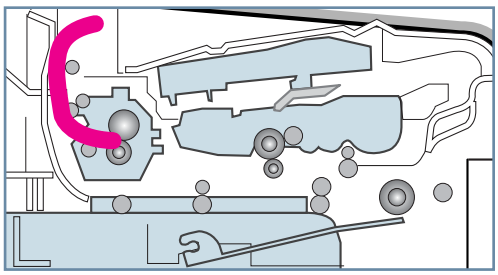

Check and Cause
Solution
1. If the recording paper is jammed in front of or inside the fuser.
Replace the SMPS or Exit-Sensor.
2. If the recording paper is stuck in the discharge roller and the fuser just after passing through the Actuator-Feed, Feed Actuator may be defective.
1. Replace the Main PBA.
2. Reassemble the Actuator-Feed and Spring-Actuator if the movement is bad.
End



4) JAM 2

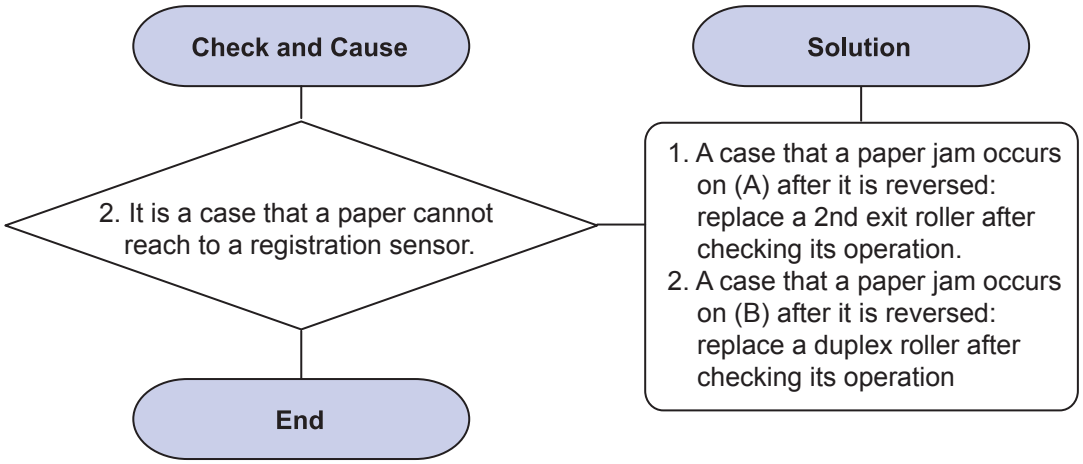
Description : 1. Recording paper is jammed in front of or inside the fuser.
2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.

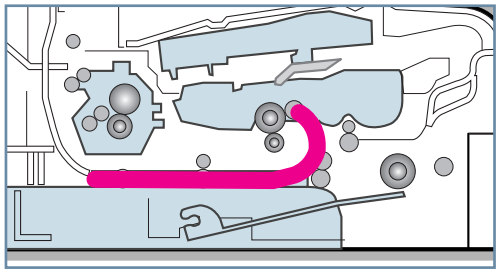

Check and Cause
Solution
1. If the paper is completely fed out of the printer, but Jam 2 occurs : Exit sensor is defective.
¥ After the paper is completely discharged, actuator Exit should return to the original position to shut the photo-sensor. Sometimes it takes longer hour than it should and does not return.
Check if the exit sensor actuator is defective.
¥ Check if the actuator exit is deformed (Check if the lever part is deformed in shape).
¥ Check whether burrs occur in the assembly part of the actuator exit or not and if the actuator is smoothly operated.
¥ Check if foreign matter and wire get caught in the actuator exit's operation.
2. If the paper is rolled in the Fuser Roller:
¥ This occurs when a Guide claw is broken away or transformed.
¥ It occurs when the Spring of a Guide claw is broken away or transformed.
¥ It occurs when the Heat-Roller or Pressure-Roller is seriously contaminated with the toner.
If the paper is stuck in the fuser : disassemble the fuser and remove the jammed paper, and clean the surface of the pressure roller with dry gauze.
3. Paper is accordion in the fuser.
Remove the jammed paper after disassembling the fuser : Clean the surface of the pressure roller with dry gauze.
¥ Remove the toner particles stained on the rib.
¥ Check the assemblage and performance of the exit.
End



5) JAM Duplex

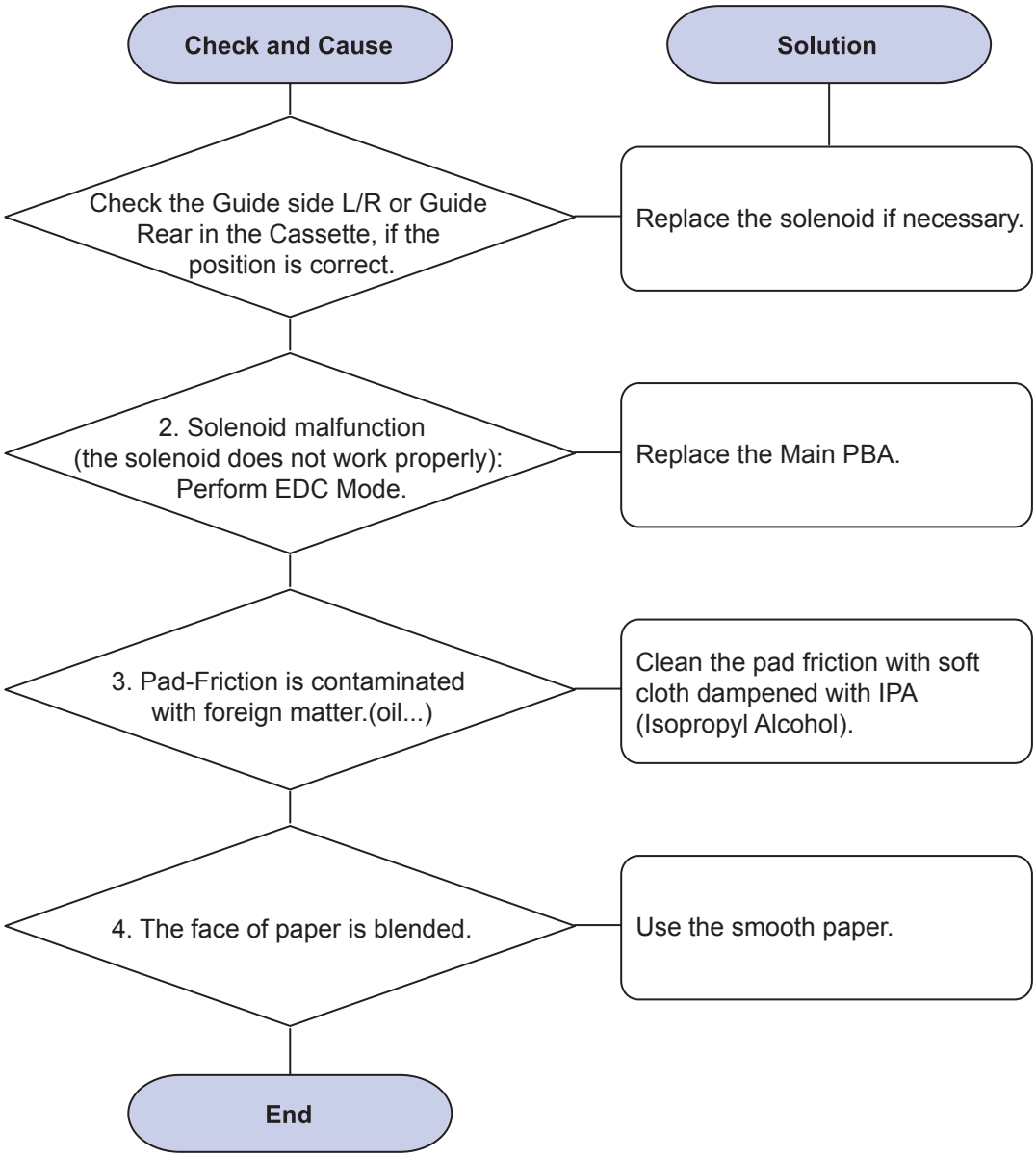
Description : Recording paper is Jamned in front or inside a duplex module.


Check and Cause
Solution
2. It is a case that a paper cannot reach to a registration sensor.
1. A case that a paper jam occurs on (A) after it is reversed: replace a 2nd exit roller after checking its operation.
2. A case that a paper jam occurs on (B) after it is reversed: replace a duplex roller after checking its operation
End



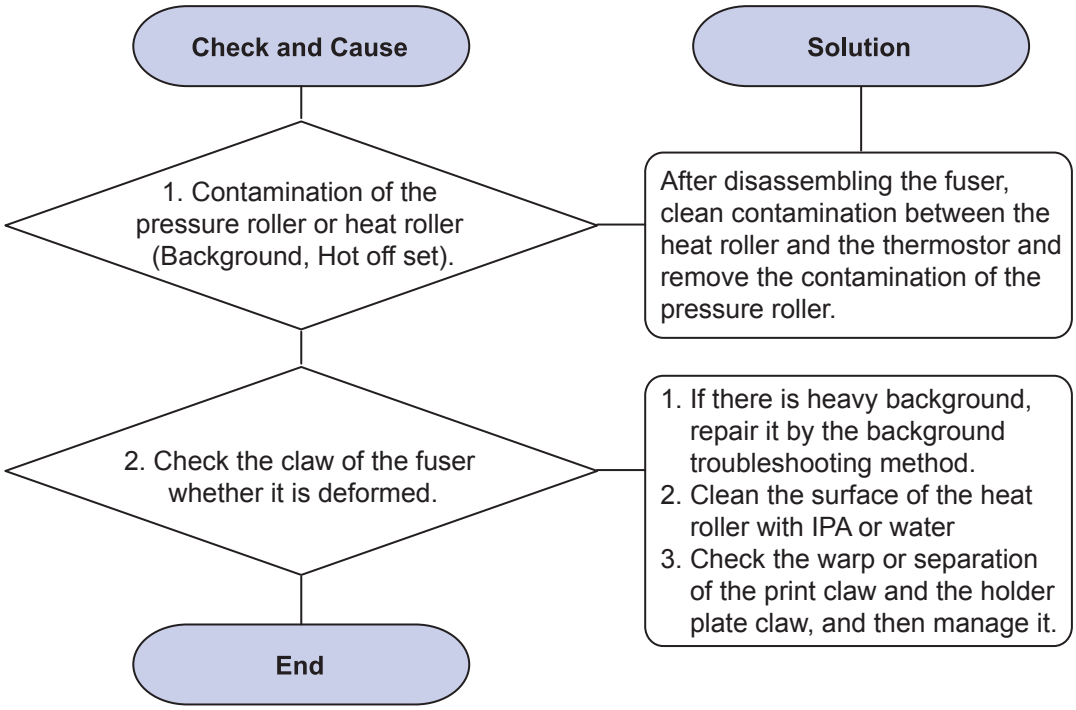
6) Multi-Feeding

Description : Multiple sheets of paper are fed at once.


Check and Cause
Solution
Check the Guide side L/R or Guide Rear in the Cassette, if the position is correct.
Replace the solenoid if necessary.
2. Solenoid malfunction (the solenoid does not work properly): Perform EDC Mode.
Replace the Main PBA.
3. Pad-Friction is contaminated with foreign matter.(oil...)
Clean the pad friction with soft cloth dampened with IPA (Isopropyl Alcohol).
4. The face of paper is blended.
Use the smooth paper.
End

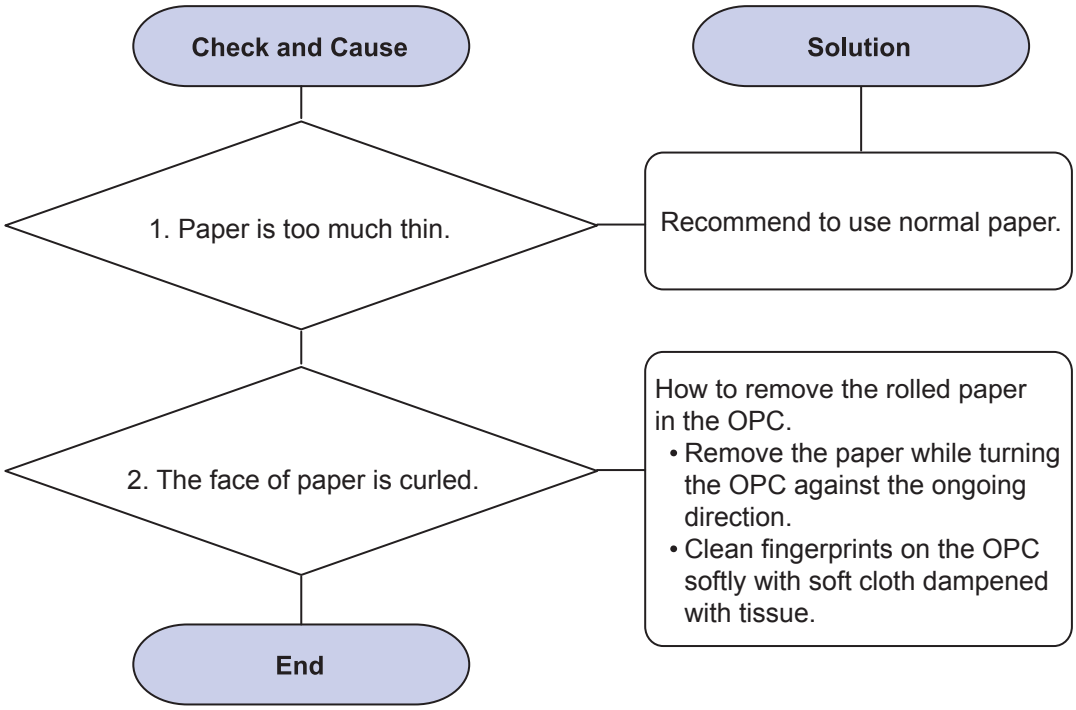
7) Paper rolled in the fuser

Description : If contaminated at intervals of 77.6mm on the back of a paper.


Check and Cause
Solution
1. Contamination of the pressure roller or heat roller (Background, Hot off set).
After disassembling the fuser, clean contamination between the heat roller and the thermostor and remove the contamination of the pressure roller.
2. Check the claw of the fuser whether it is deformed.
1. If there is heavy background, repair it by the background troubleshooting method.
2. Clean the surface of the heat roller with IPA or water
3. Check the warp or separation of the print claw and the holder plate claw, and then manage it.
End

8) Paper rolled on the OPC Drum

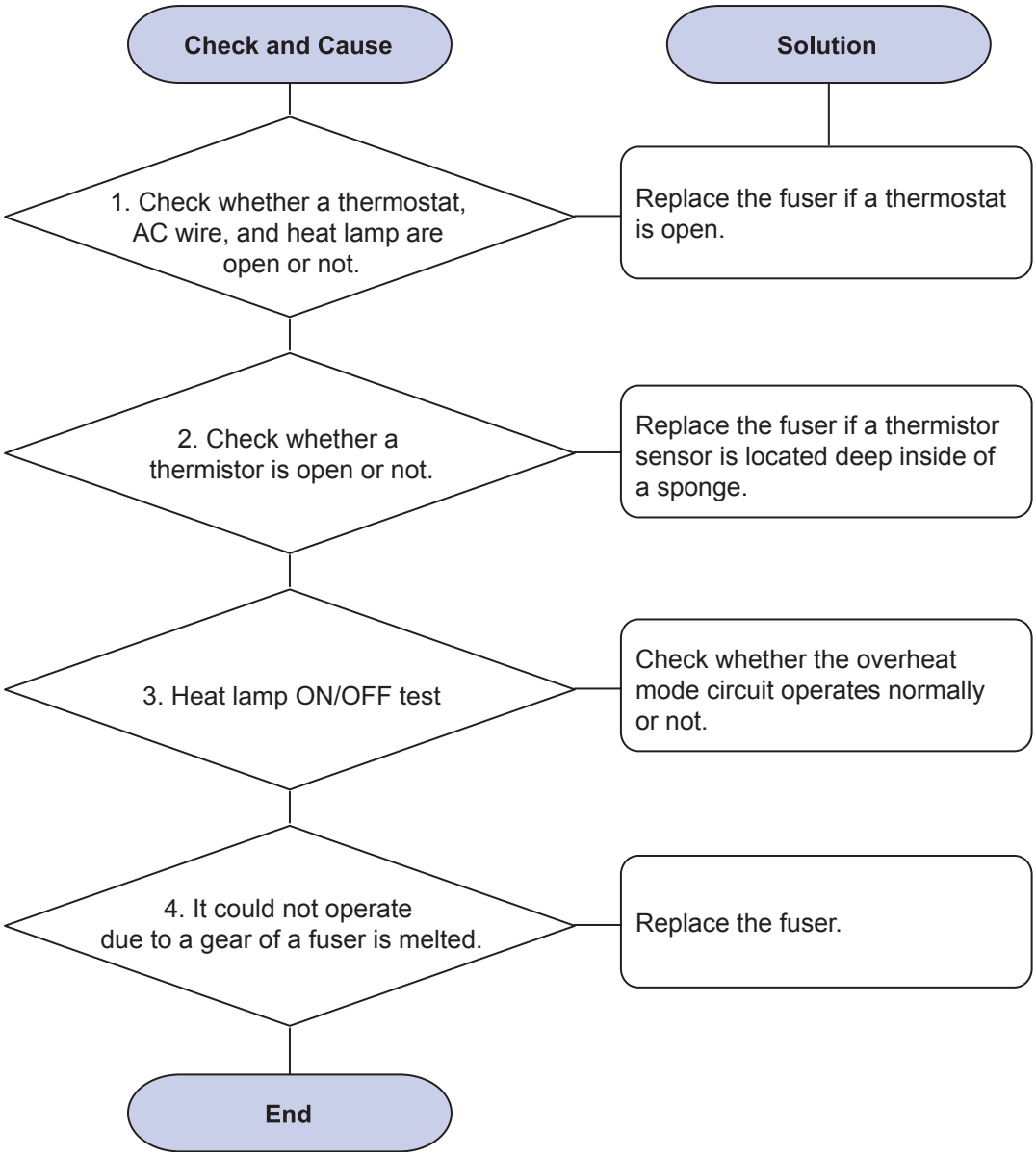
Description : Paper is rolled up in the OPC.


Check and Cause
Solution
1. Paper is too much thin.
Recommend to use normal paper.
2. The face of paper is curled.
How to remove the rolled paper in the OPC.
• Remove the paper while turning the OPC against the ongoing direction.
• Clean fingerprints on the OPC softly with soft cloth dampened with tissue.
End

4.2.4 The cause and solution of the malfunction

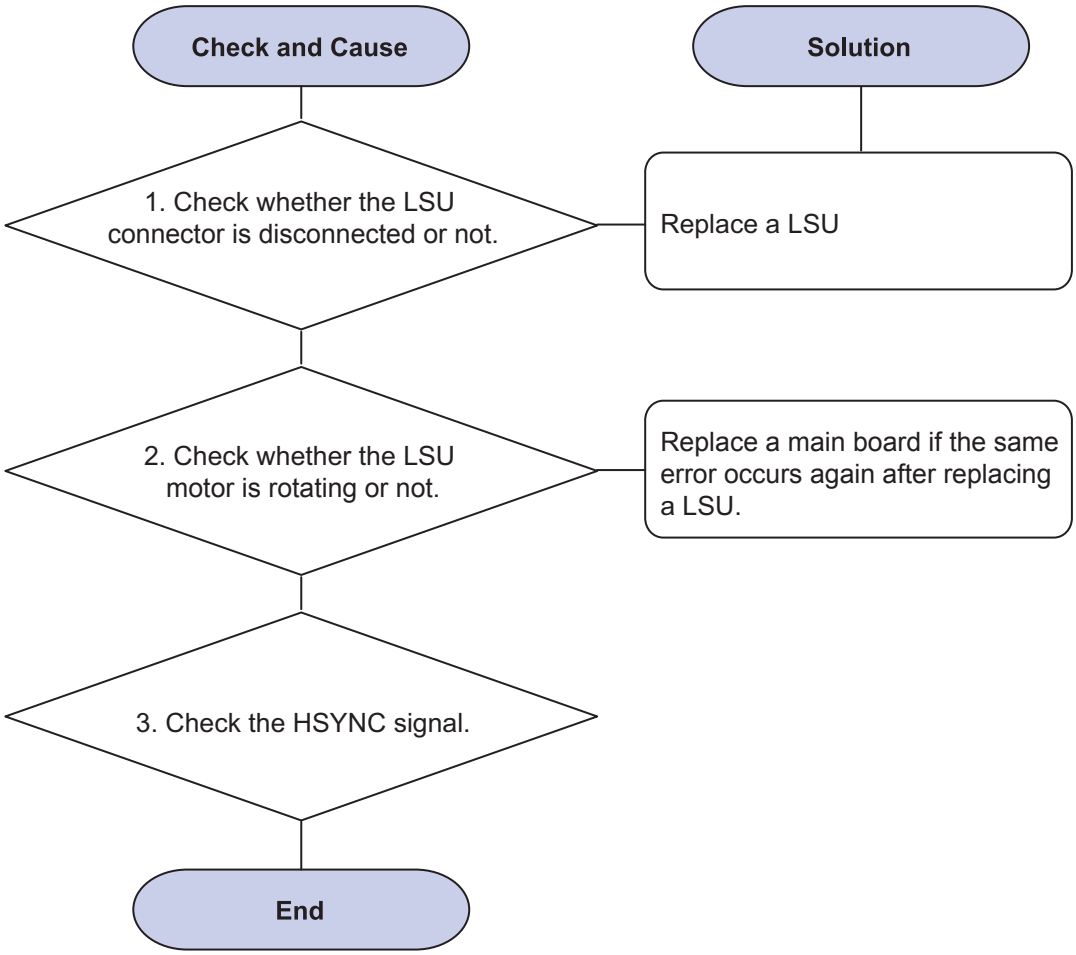
1) Fuser Error

Description : Fuser error is displayed on LCD


Check and Cause
Solution
1. Check whether a thermostat, AC wire, and heat lamp are open or not.
Replace the fuser if a thermostat is open.
2. Check whether a thermistor is open or not.
Replace the fuser if a thermistor sensor is located deep inside of a sponge.
3. Heat lamp ON/OFF test
Check whether the overheat mode circuit operates normally or not.
4. It could not operate due to a gear of a fuser is melted.
Replace the fuser.
End

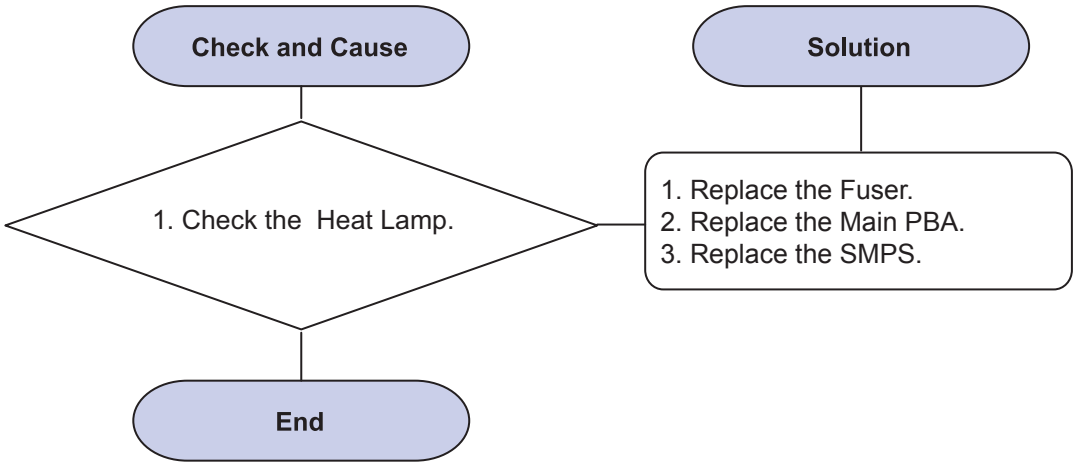
2) LSU Error

Description : "PMOTOR ERROR/HSYNC ERROR'


Check and Cause
Solution
1. Check whether the LSU connector is disconnected or not.
Replace a LSU
2. Check whether the LSU motor is rotating or not.
Replace a main board if the same error occurs again after replacing a LSU.
3. Check the HSYNC signal.
End

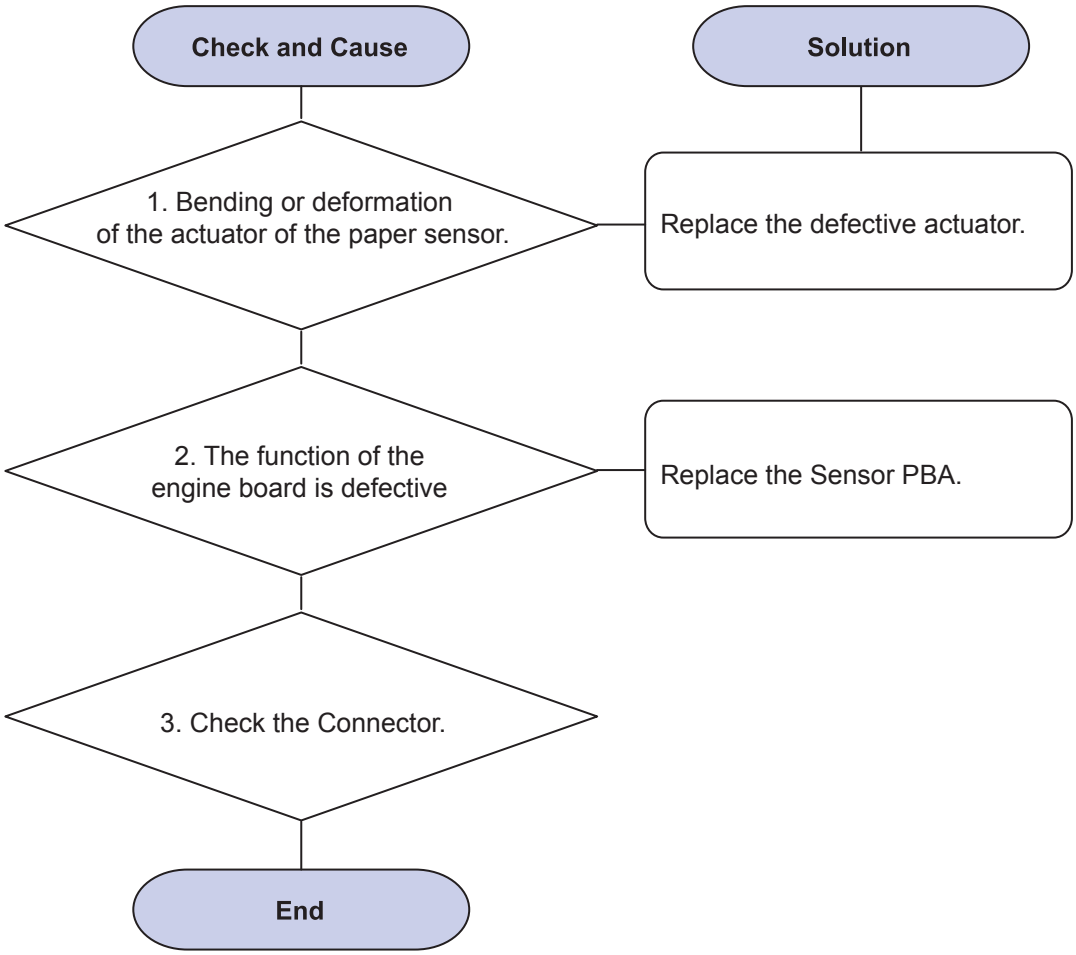
3) Not function of the gear of the fuser due to melting away

Description : The motor breaks away from its place due to gear melting away.



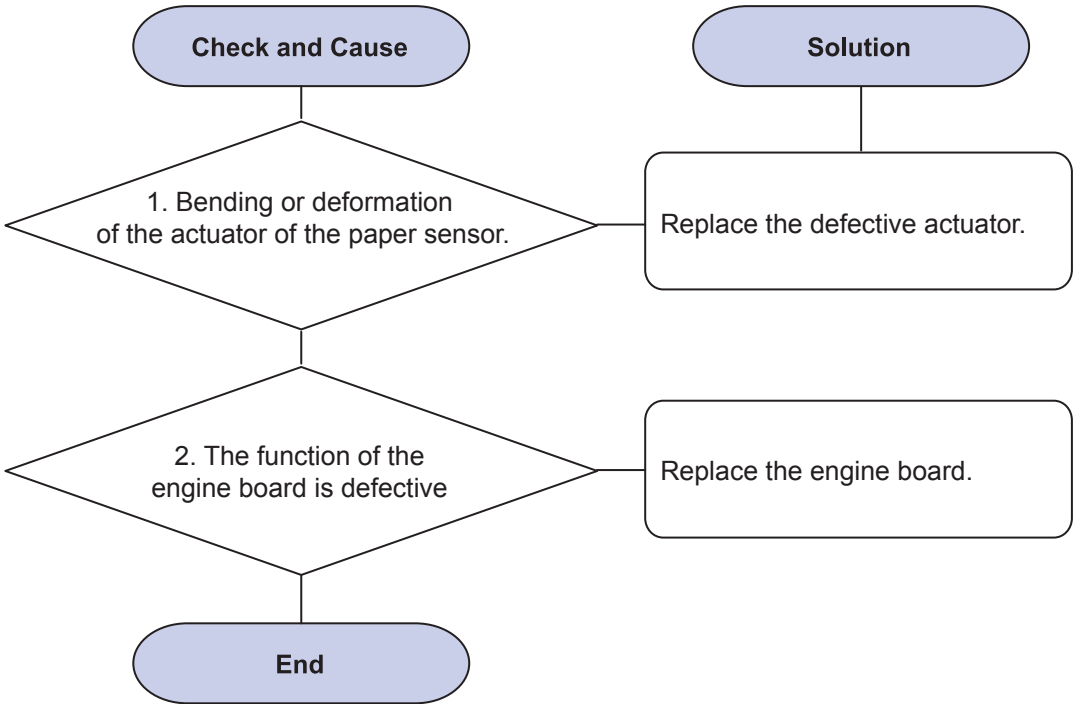
4) Paper Empty

Description : Paper empty error message is displayed on LCD when paper is loaded in the cassette.


Check and Cause
Solution
1. Bending or deformation of the actuator of the paper sensor.
Replace the defective actuator.
2. The function of the engine board is defective
Replace the Sensor PBA.
3. Check the Connector.
End

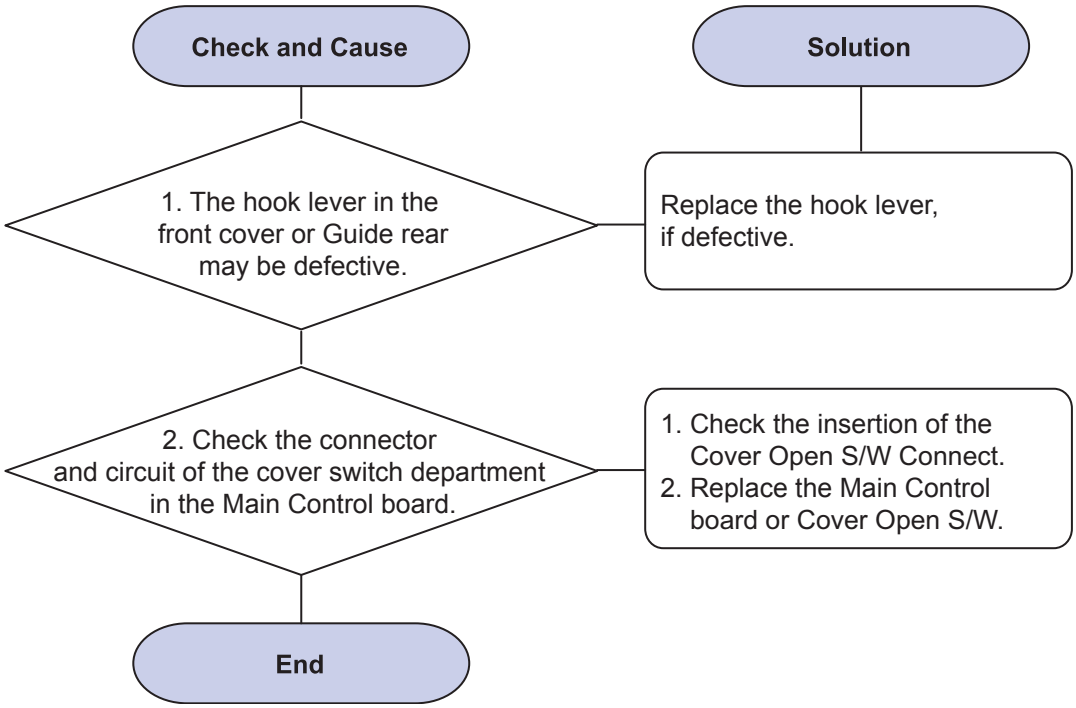
5) Paper Empty without indication

Description : Paper empty error message does not display when the paper cassette is empty.


Check and Cause
Solution
1. Bending or deformation of the actuator of the paper sensor.
Replace the defective actuator.
2. The function of the engine board is defective
Replace the engine board.
End

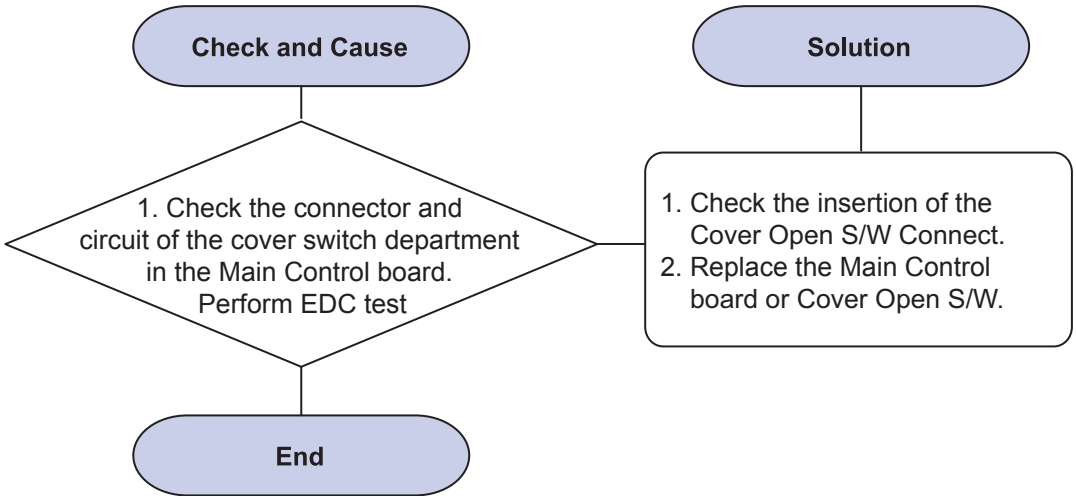
6) Cover Open

Description : The ERROR lamp is on even when the print cover is closed.


Check and Cause
Solution
1. The hook lever in the front cover or Guide rear may be defective.
Replace the hook lever, if defective.
2. Check the connector and circuit of the cover switch department in the Main Control board.
1. Check the insertion of the Cover Open S/W Connect.
2. Replace the Main Control board or Cover Open S/W.
End

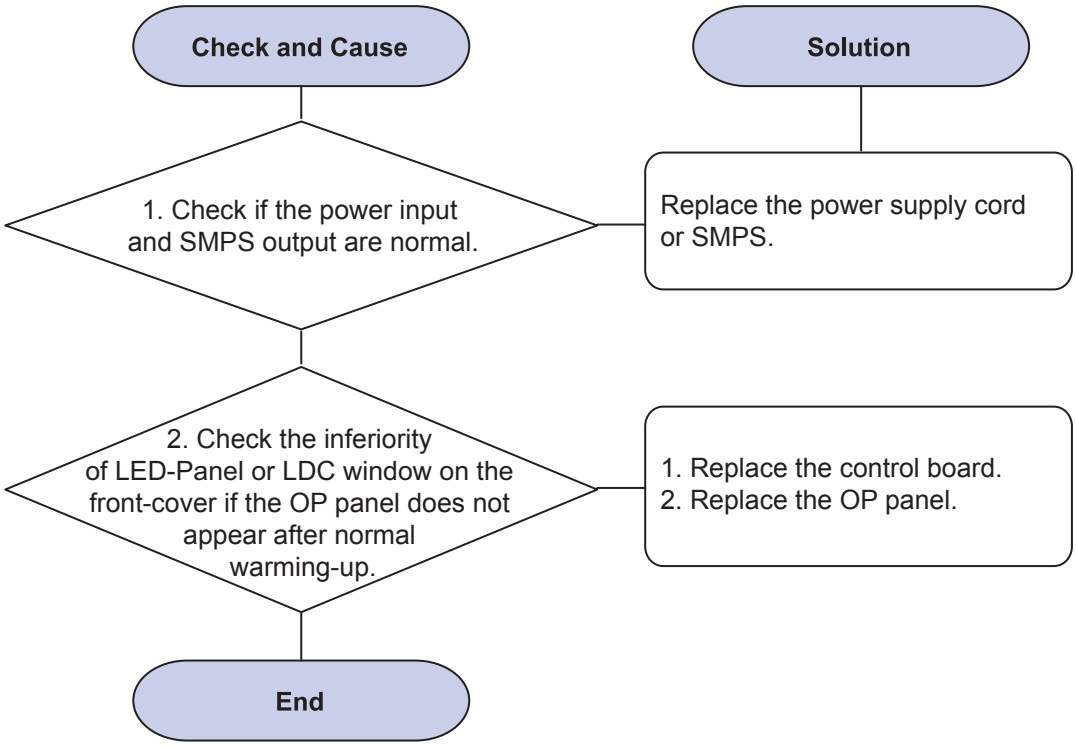
7) No error LED when the cover is open

Description : The Error LED does not come on even when the printer cover is open


Check and Cause
Solution
1. Check the connector and circuit of the cover switch department in the Main Control board. Perform EDC test
1. Check the insertion of the Cover Open S/W Connect.
2. Replace the Main Control board or Cover Open S/W.
End

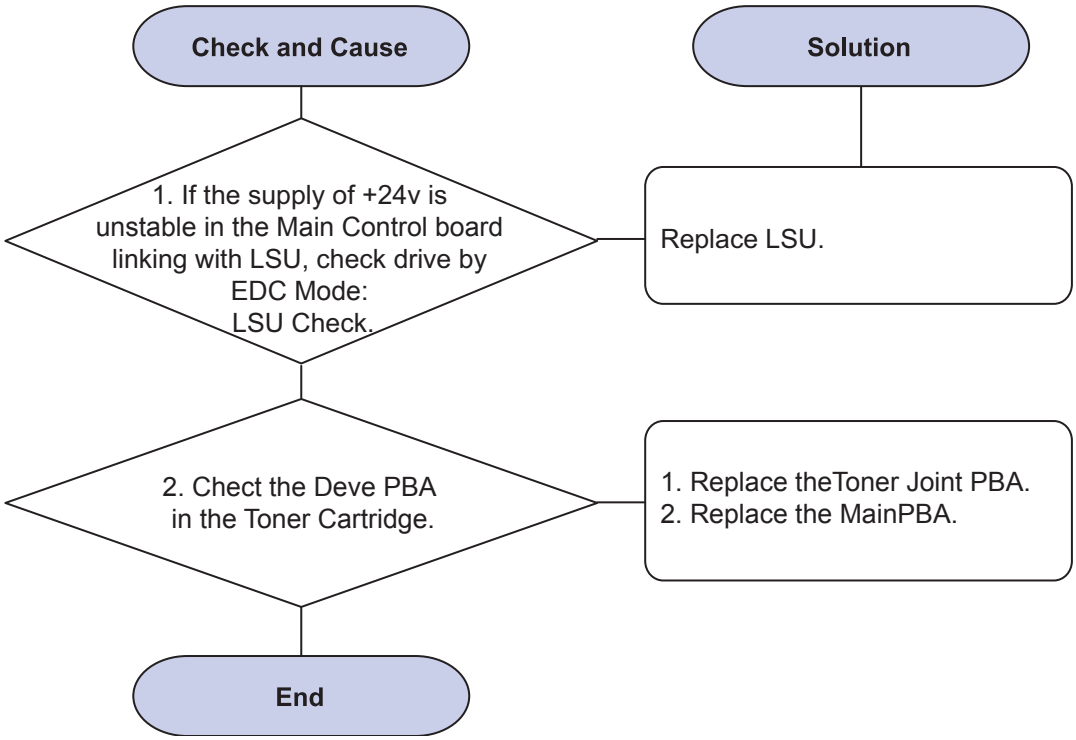
8) No Power

Description : When system power is turned on, all lamps on the operator panel do not come on.


Check and Cause
Solution
1. Check if the power input and SMPS output are normal.
Replace the power supply cord or SMPS.
2. Check the inferiority of LED-Panel or LDC window on the front-cover if the OP panel does not appear after normal warming-up.
1. Replace the control board.
2. Replace the OP panel.
End

9) Vertical Line Getting Curved

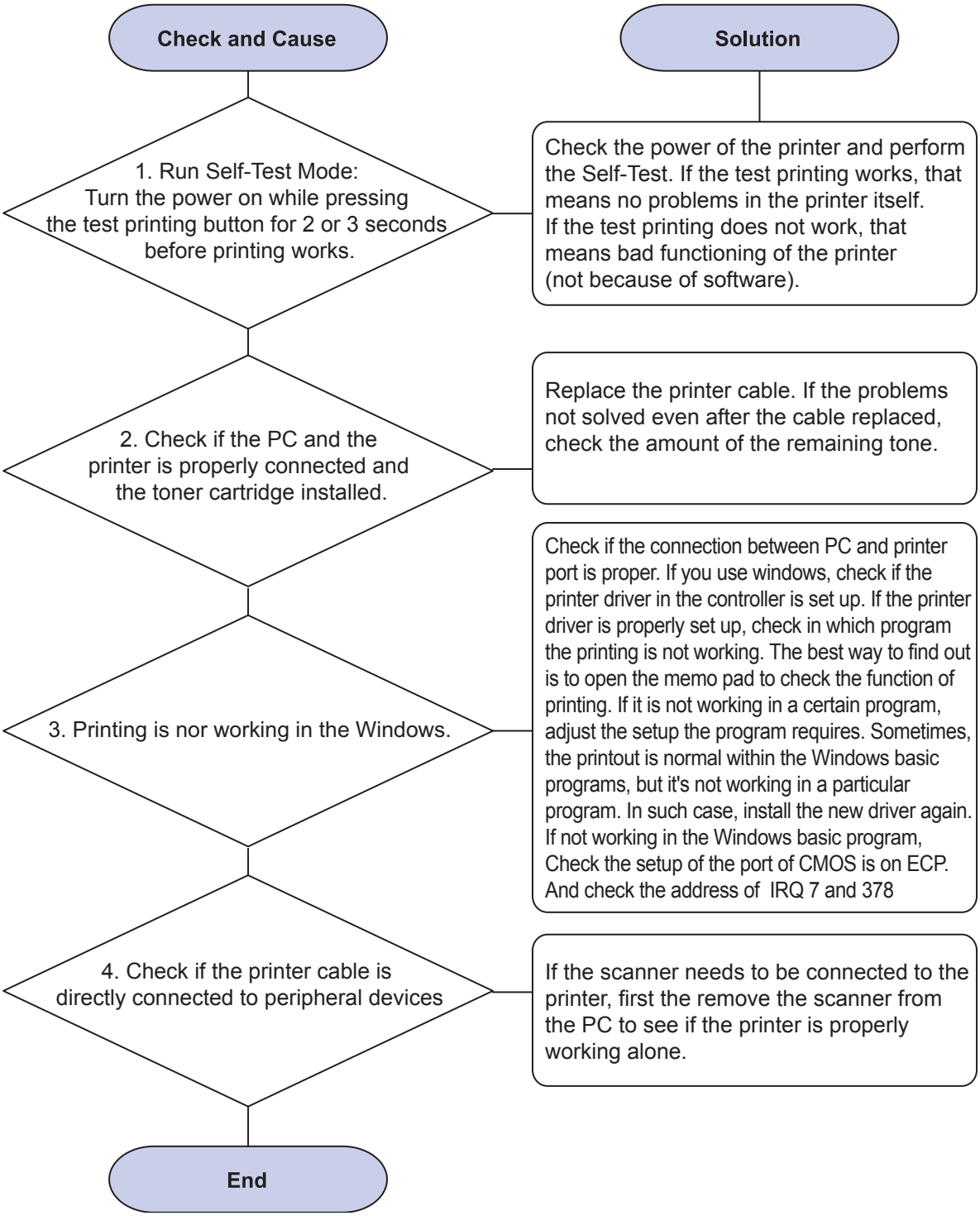
Description : When printing, vertical line gets curved.


Check and Cause
Solution
1. If the supply of +24v is unstable in the Main Control board linking with LSU, check drive by EDC Mode: LSU Check.
Replace LSU.
2. Chect the Deve PBA in the Toner Cartridge.
1. Replace theToner Joint PBA.
2. Replace the MainPBA.
End

4.2.5 The cause and solutions of bad environment of the software

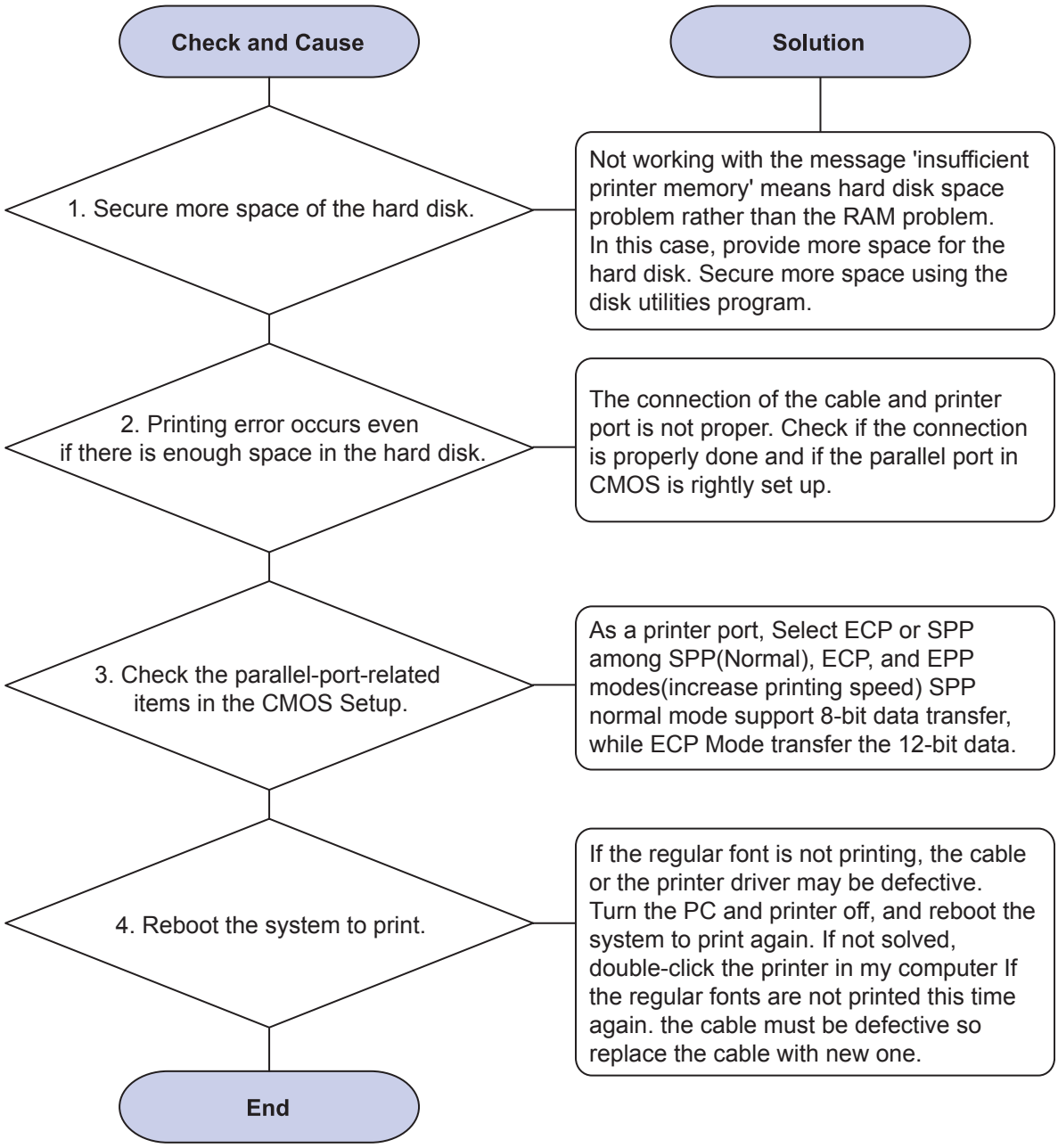
1) The printer is not working (1)

Description : While Power turned on, the printer is not working in the printing mode.


Check and Cause
Solution
1. Run Self-Test Mode:
Turn the power on while pressing
the test printing button for 2 or 3 seconds
before printing works.
Check the power of the printer and perform the Self-Test. If the test printing works, that means no problems in the printer itself.
If the test printing does not work, that means bad functioning of the printer (not because of software).
2. Check if the PC and the
printer is properly connected and
the toner cartridge installed.
Replace the printer cable. If the problems not solved even after the cable replaced, check the amount of the remaining tone.
3. Printing is nor working in the Windows.
Check if the connection between PC and printer port is proper. If you use windows, check if the printer driver in the controller is set up. If the printer driver is properly set up, check in which program the printing is not working. The best way to find out is to open the memo pad to check the function of printing. If it is not working in a certain program, adjust the setup the program requires. Sometimes, the printout is normal within the Windows basic programs, but it's not working in a particular program. In such case, install the new driver again.
If not working in the Windows basic program, Check the setup of the port of CMOS is on ECP. And check the address of IRQ 7 and 378
4. Check if the printer cable is
directly connected to peripheral devices
If the scanner needs to be connected to the printer, first the remove the scanner from the PC to see if the printer is properly working alone.
End

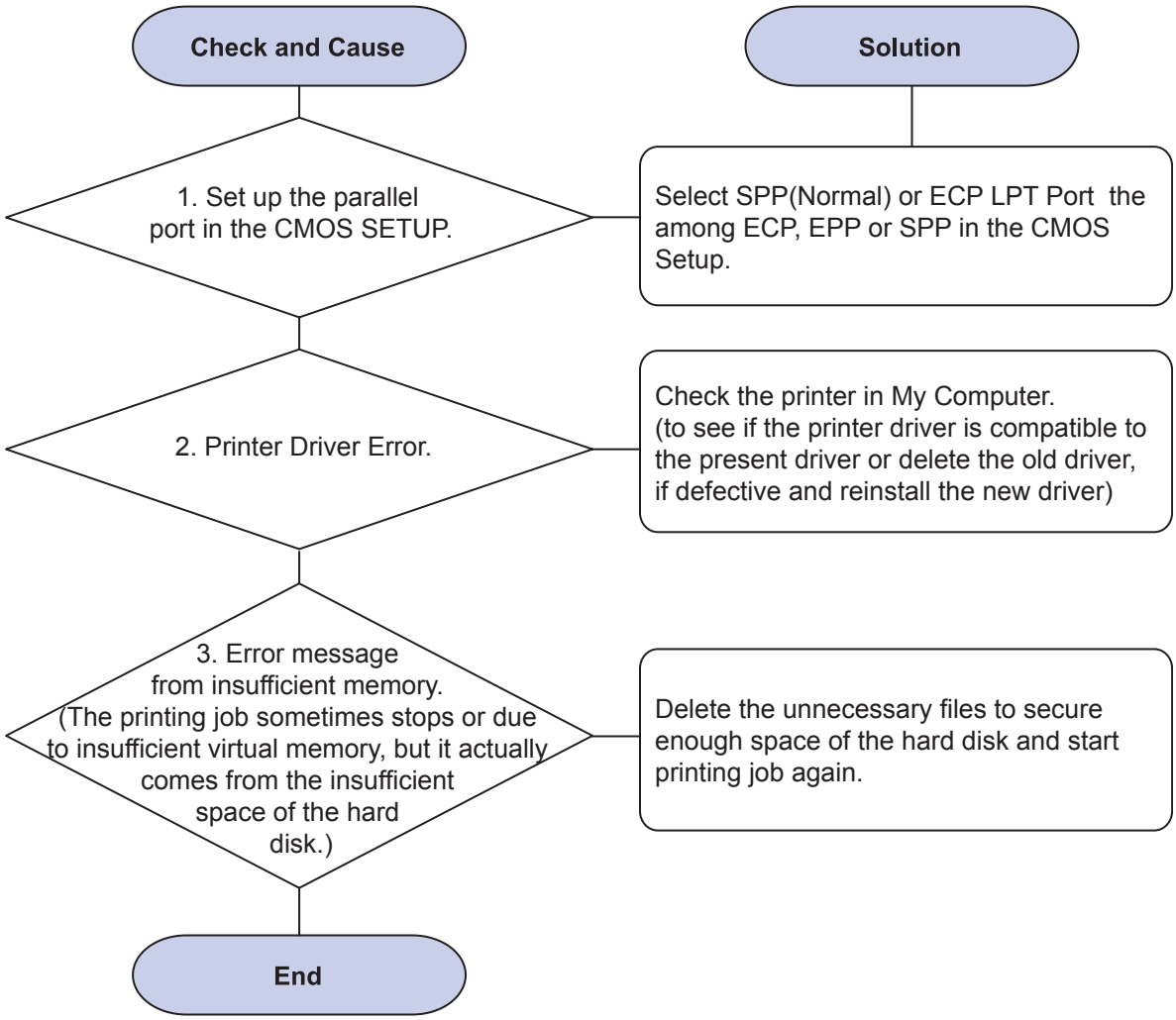
2) The printer is not working (2)

Description : After receiving the printing order, no response at all or the low speed of printing occurs due to wrong setup of the environment rather than malfunction of the printer itself.


Check and Cause
Solution
1. Secure more space of the hard disk.
Not working with the message 'insufficient printer memory' means hard disk space problem rather than the RAM problem. In this case, provide more space for the hard disk. Secure more space using the disk utilities program.
2. Printing error occurs even if there is enough space in the hard disk.
The connection of the cable and printer port is not proper. Check if the connection is properly done and if the parallel port in CMOS is rightly set up.
3. Check the parallel-port-related items in the CMOS Setup.
As a printer port, Select ECP or SPP among SPP(Normal), ECP, and EPP modes(increase printing speed) SPP normal mode support 8-bit data transfer, while ECP Mode transfer the 12-bit data.
4. Reboot the system to print.
If the regular font is not printing, the cable or the printer driver may be defective. Turn the PC and printer off, and reboot the system to print again. If not solved, double-click the printer in my computer If the regular fonts are not printed this time again. the cable must be defective so replace the cable with new one.
End

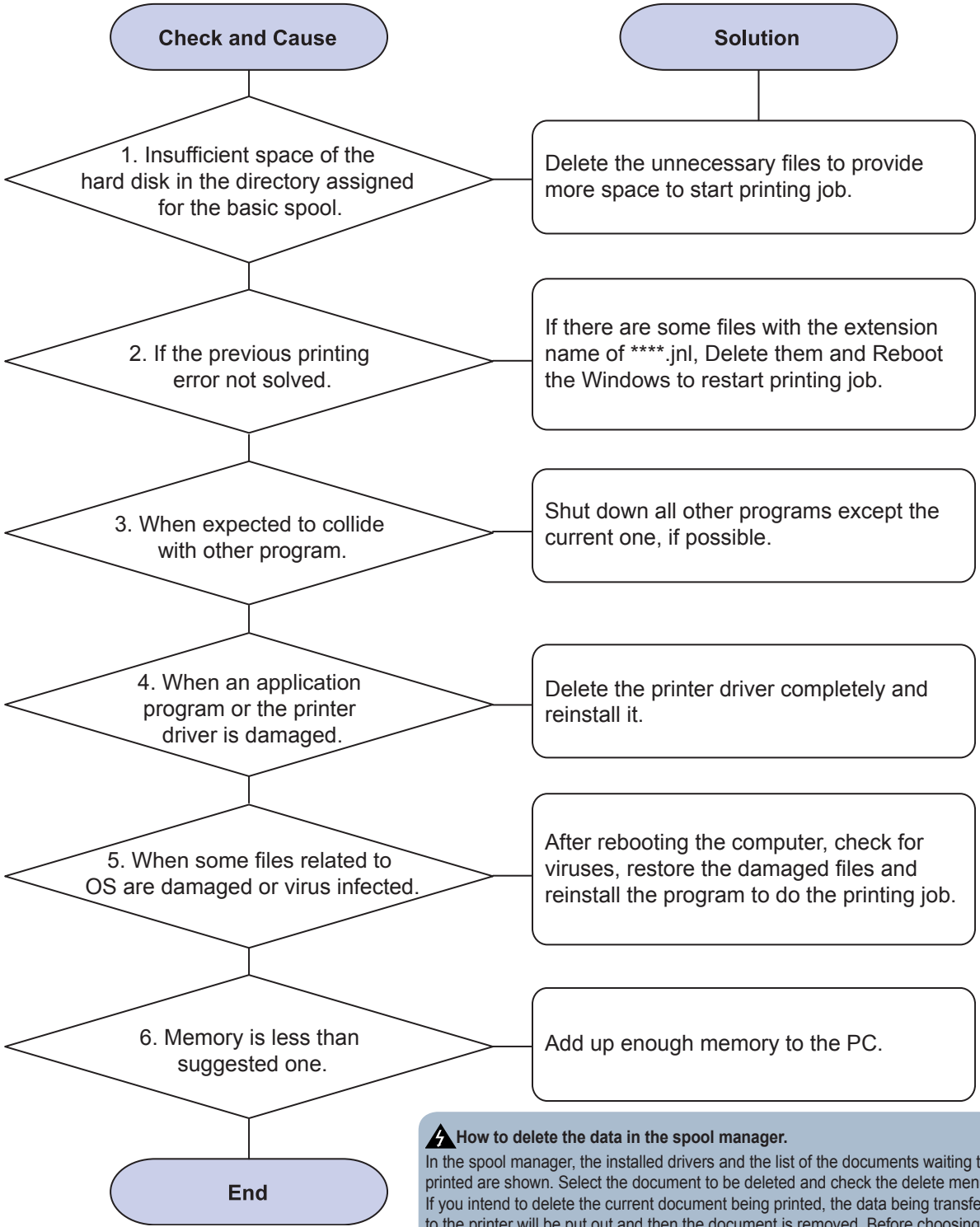
3) Abnormal Printing

Description : The printing is not working properly even when the cable has no problem. (even after the cable is replaced) If the printer won't work at all or the strange fonts are repeated, the printer driver may be defective or wrong setup in the CMOS Setup.


Check and Cause
Solution
1. Set up the parallel port in the CMOS SETUP.
Select SPP(Normal) or ECP LPT Port the among ECP, EPP or SPP in the CMOS Setup.
2. Printer Driver Error.
Check the printer in My Computer. (to see if the printer driver is compatible to the present driver or delete the old driver, if defective and reinstall the new driver)
3. Error message from insufficient memory. (The printing job sometimes stops or due to insufficient virtual memory, but it actually comes from the insufficient space of the hard disk.)
Delete the unnecessary files to secure enough space of the hard disk and start printing job again.
End

4) SPOOL Error

Description : To spool which stands for “simultaneous peripheral operations online” a computer document or task list (or “job”) is to read it in and store it, usually on a hard disk or larger storage medium so that it can be printed or otherwise processed at a more convenient time (for example, when a printer is finished printing its current document).


Check and Cause
Solution
1. Insufficient space of the hard disk in the directory assigned for the basic spool.
Delete the unnecessary files to provide more space to start printing job.
2. If the previous printing error not solved.
If there are some files with the extension name of ****.jnl, Delete them and Reboot the Windows to restart printing job.
3. When expected to collide with other program.
Shut down all other programs except the current one, if possible.
4. When an application program or the printer driver is damaged.
Delete the printer driver completely and reinstall it.
5. When some files related to OS are damaged or virus infected.
After rebooting the computer, check for viruses, restore the damaged files and reinstall the program to do the printing job.
6. Memory is less than suggested one.
Add up enough memory to the PC.
End

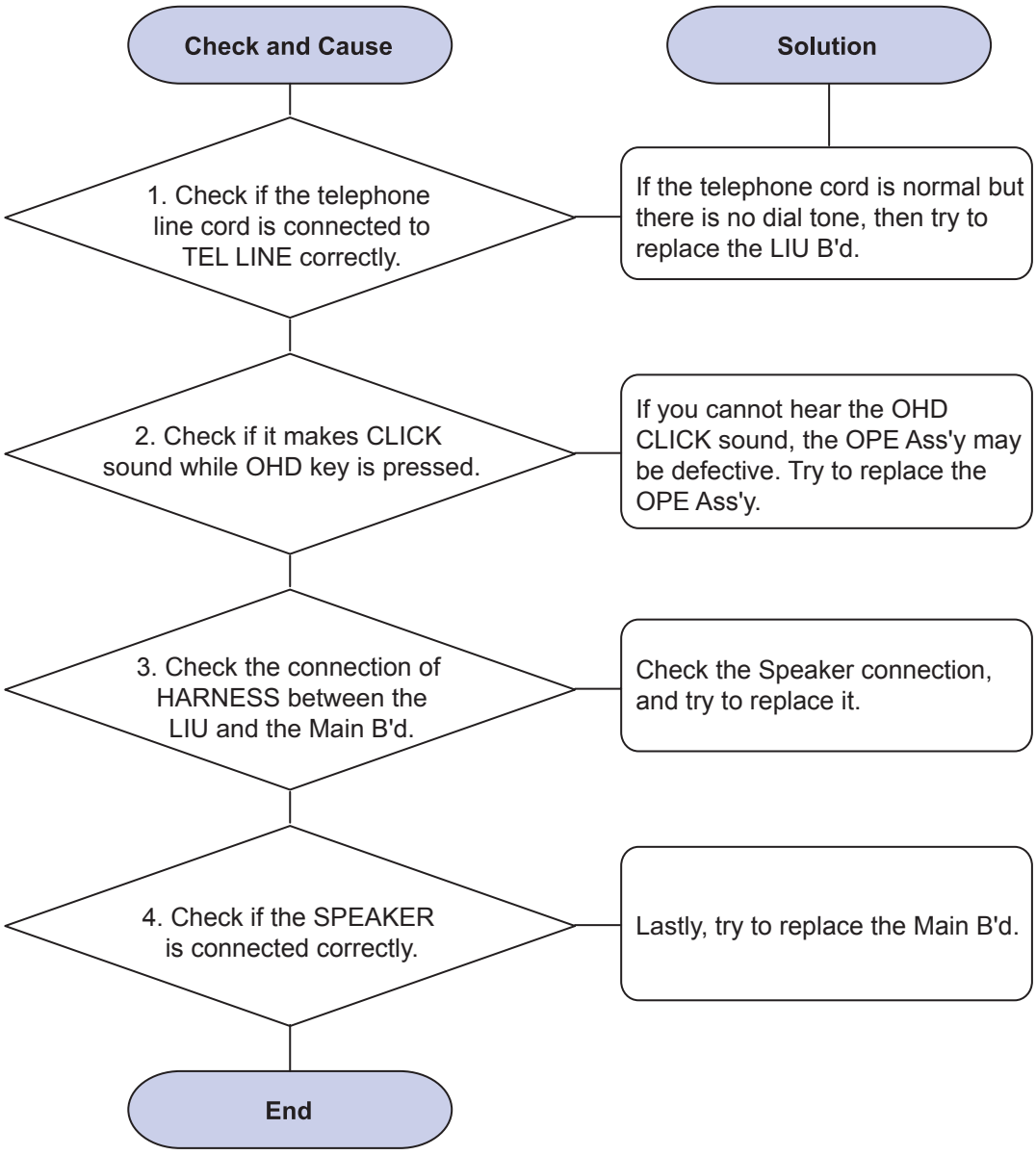
How to delete the data in the spool manager.

In the spool manager, the installed drivers and the list of the documents waiting to be printed are shown. Select the document to be deleted and check the delete menu.
If you intend to delete the current document being printed, the data being transferred to the printer will be put out and then the document is removed. Before choosing the document, the menu is still inactive.
Or put the document out of the list and repeat the routine as in the above or finish the spool manager.

4.2.6 Fax & Phone Problems

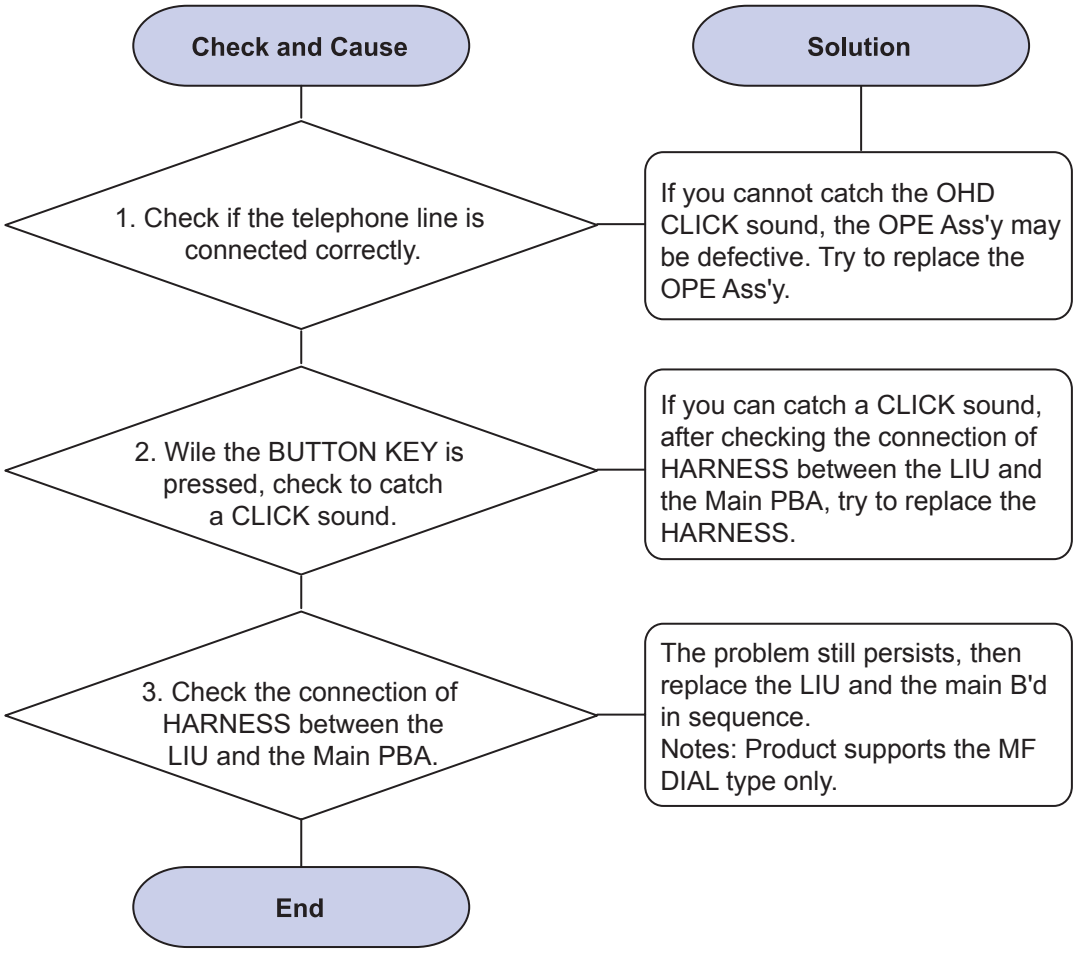
1) No Dial Tone

Description : While on-hook button is pressed, there is no dial tone.


Check and Cause
Solution
1. Check if the telephone line cord is connected to TEL LINE correctly.
If the telephone cord is normal but there is no dial tone, then try to replace the LIU B'd.
2. Check if it makes CLICK sound while OHD key is pressed.
If you cannot hear the OHD CLICK sound, the OPE Ass'y may be defective. Try to replace the OPE Ass'y.
3. Check the connection of HARNESS between the LIU and the Main B'd.
Check the Speaker connection, and try to replace it.
4. Check if the SPEAKER is connected correctly.
Lastly, try to replace the Main B'd.
End

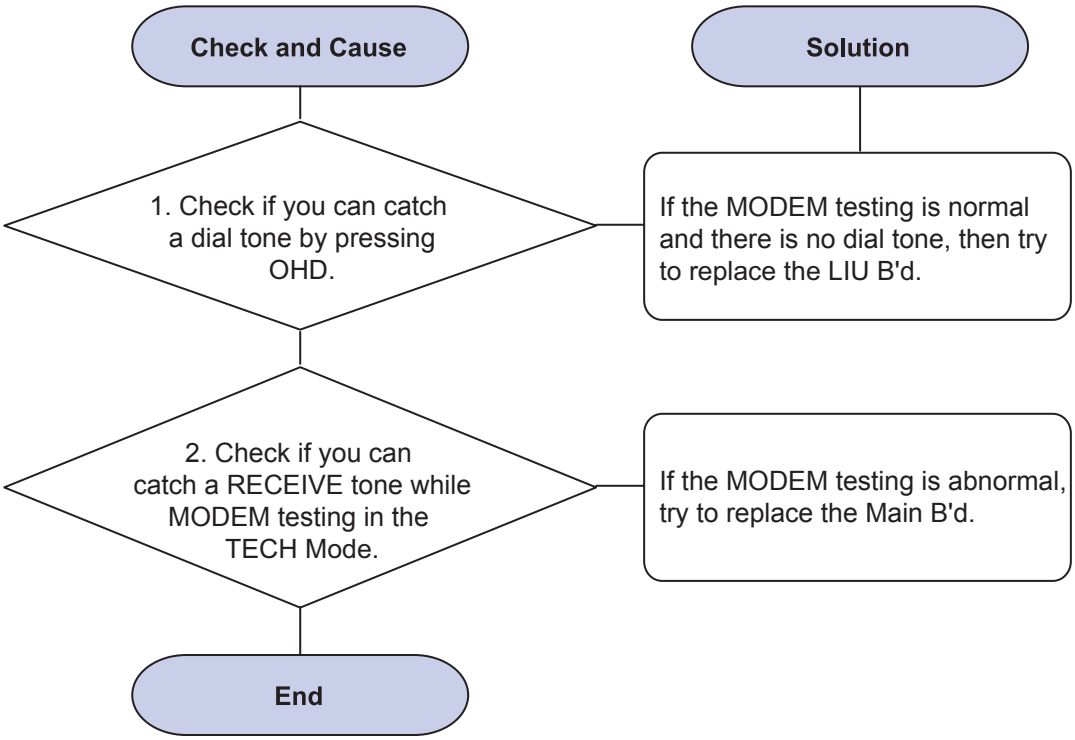
2) Defective MF DIAL

Description : The MF DIAL is not functioning.


Check and Cause
Solution
1. Check if the telephone line is connected correctly.
If you cannot catch the OHD CLICK sound, the OPE Ass'y may be defective. Try to replace the OPE Ass'y.
2. Wile the BUTTON KEY is pressed, check to catch a CLICK sound.
If you can catch a CLICK sound, after checking the connection of HARNESS between the LIU and the Main PBA, try to replace the HARNESS.
3. Check the connection of HARNESS between the LIU and the Main PBA.
The problem still persists, then replace the LIU and the main B'd in sequence.
Notes: Product supports the MF DIAL type only.
End

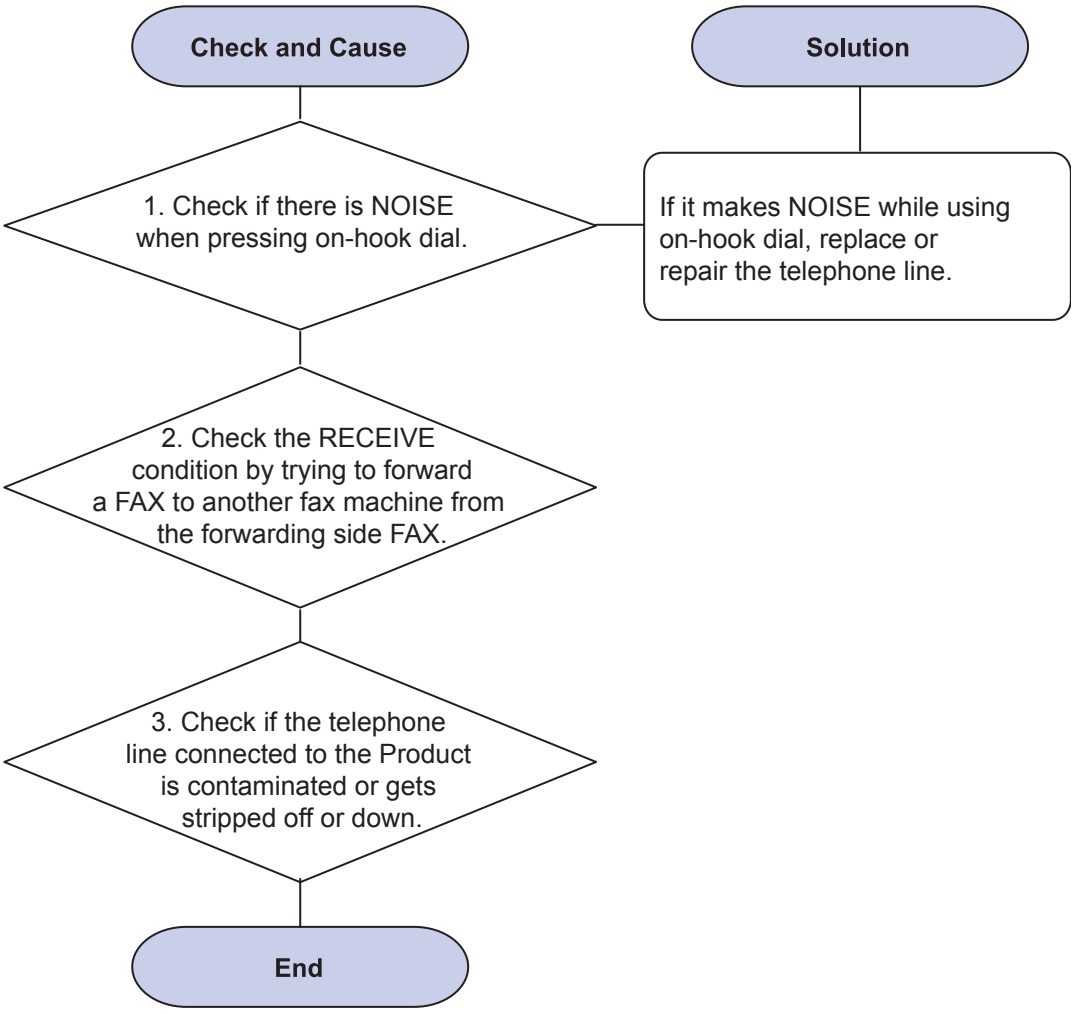
3) Defective FAX FORWARD/RECEIVE

Description : The FAX FORWARD/RECEIVE is not functioning.


Check and Cause
Solution
1. Check if you can catch a dial tone by pressing OHD.
If the MODEM testing is normal and there is no dial tone, then try to replace the LIU B'd.
2. Check if you can catch a RECEIVE tone while MODEM testing in the TECH Mode.
If the MODEM testing is abnormal, try to replace the Main B'd.
End

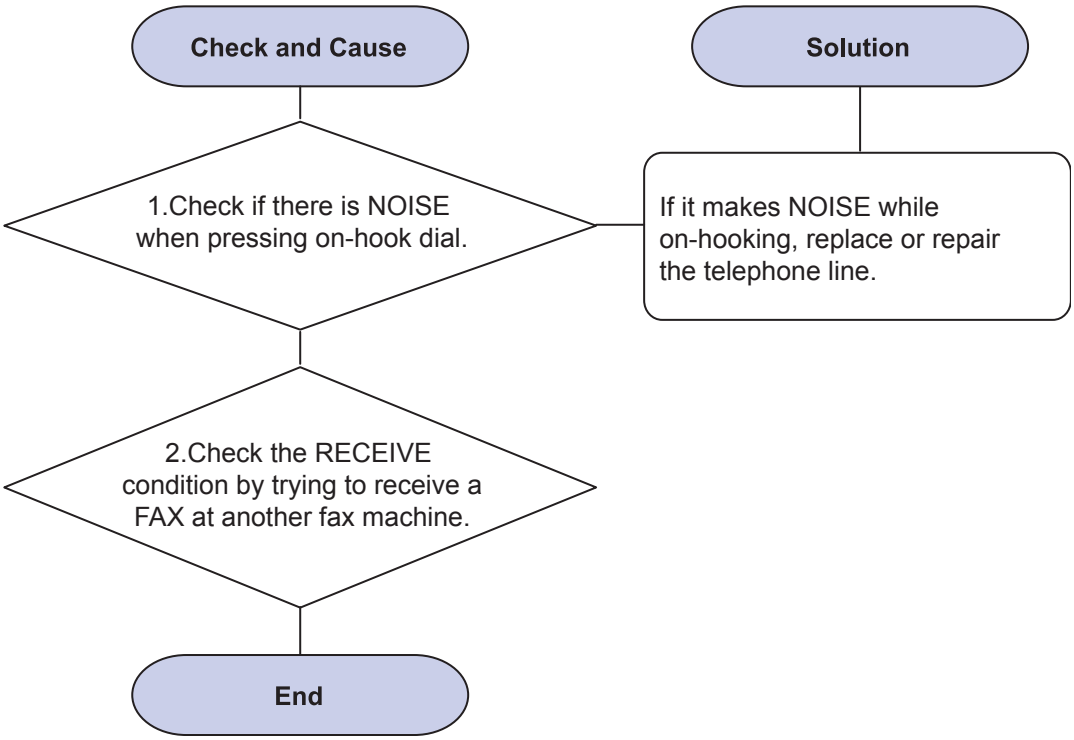
4) Defective FAX FORWARD

Description : RECEIVE is functioning, but FORWARD is not functioning or the received data are broken.


Check and Cause
Solution
1. Check if there is NOISE when pressing on-hook dial.
If it makes NOISE while using on-hook dial, replace or repair the telephone line.
2. Check the RECEIVE condition by trying to forward a FAX to another fax machine from the forwarding side FAX.
3. Check if the telephone line connected to the Product is contaminated or gets stripped off or down.
End

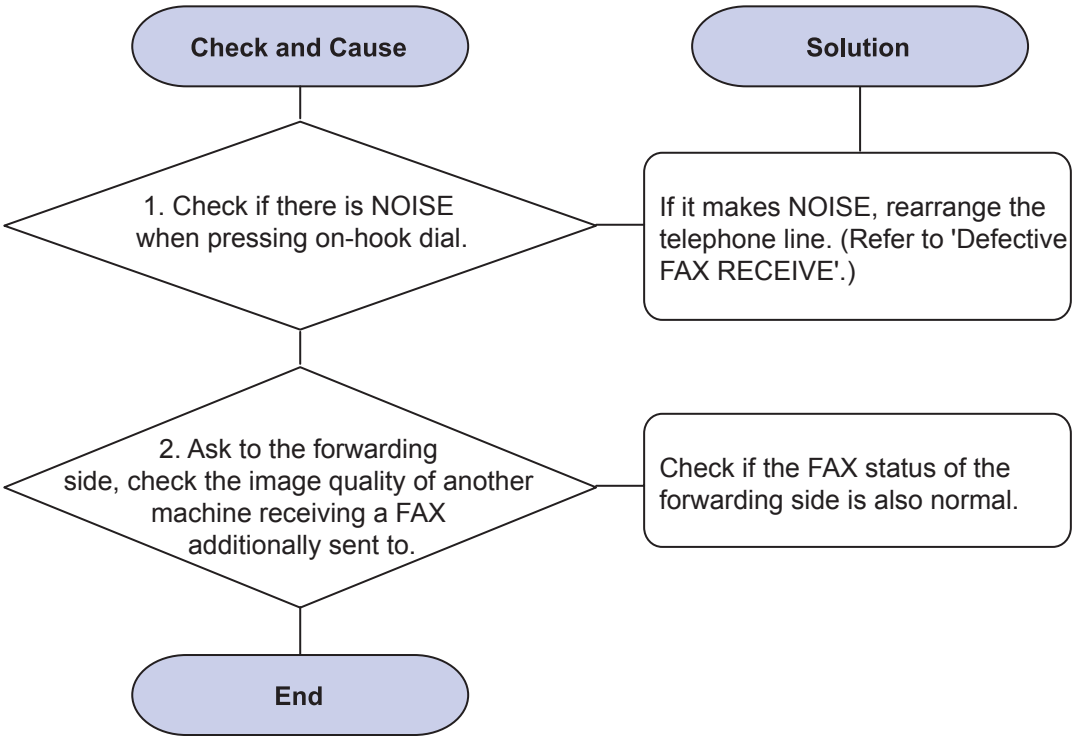
5) Defective FAX RECEIVE (1)

Description : FORWARD is functioning, but RECEIVE is not functioning or the received data are broken.


Check and Cause
Solution
1.Check if there is NOISE when pressing on-hook dial.
If it makes NOISE while on-hooking, replace or repair the telephone line.
2.Check the RECEIVE condition by trying to receive a FAX at another fax machine.
End

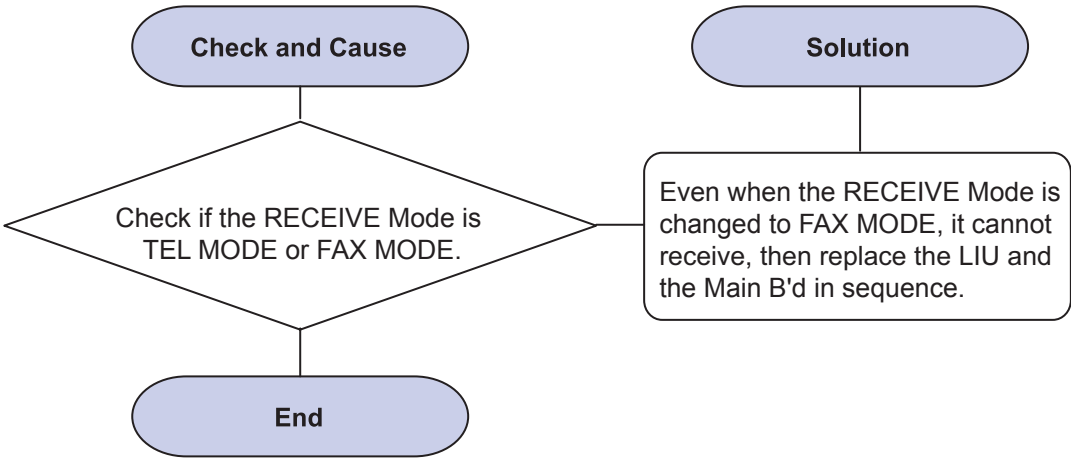
6) Defective FAX RECEIVE (2)

Description : The received data are lengthened or cut in the printing.


Check and Cause
Solution
1. Check if there is NOISE when pressing on-hook dial.
If it makes NOISE, rearrange the telephone line. (Refer to 'Defective FAX RECEIVE'.)
2. Ask to the forwarding side, check the image quality of another machine receiving a FAX additionally sent to.
Check if the FAX status of the forwarding side is also normal.
End

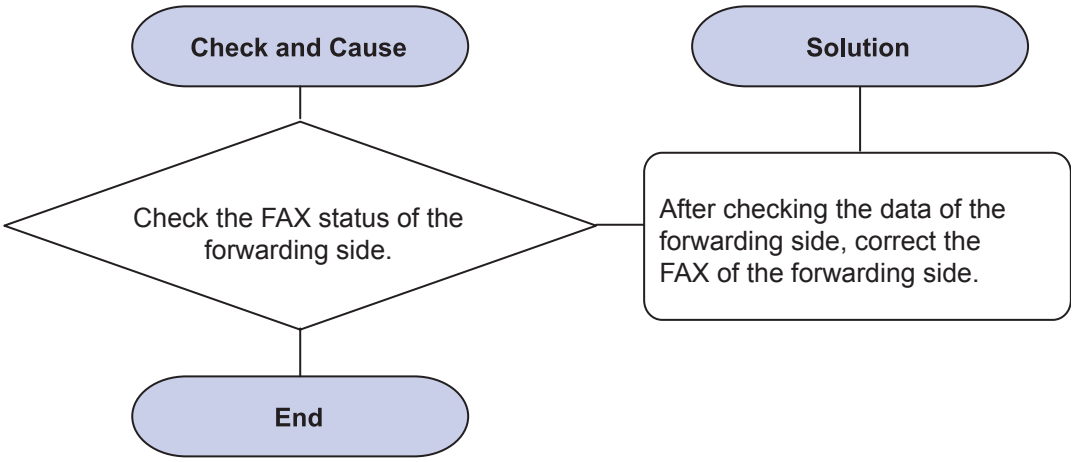
7) Defective FAX RECEIVE (3)

Description : The phone is ringing continuously, but it cannot receive.


Check and Cause
Solution
Check if the RECEIVE Mode is TEL MODE or FAX MODE.
Even when the RECEIVE Mode is changed to FAX MODE, it cannot receive, then replace the LIU and the Main B'd in sequence.
End

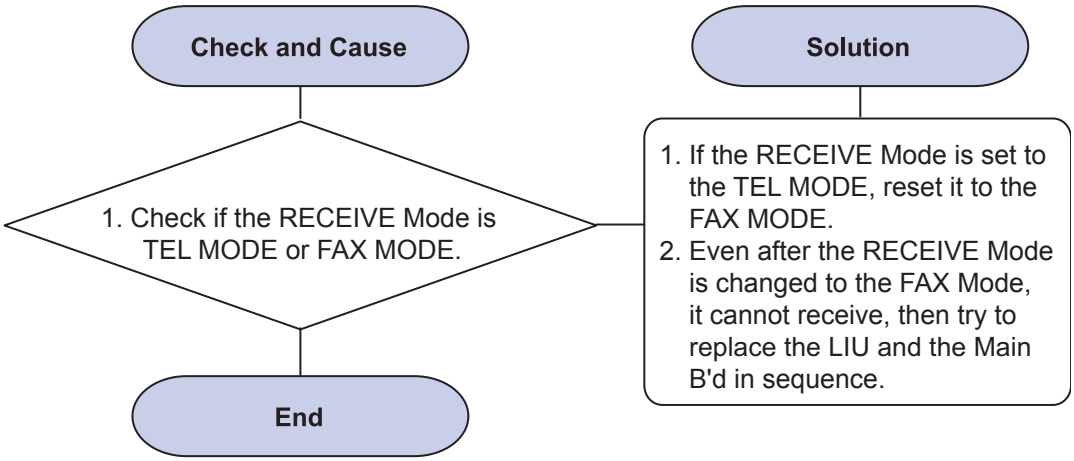
8) Defective FAX RECEIVE (4)

Description : The received data is reduced by more than 50% in the printing.


Check and Cause
Solution
Check the FAX status of the forwarding side.
After checking the data of the forwarding side, correct the FAX of the forwarding side.
End

9) Defective Automatic Receiving

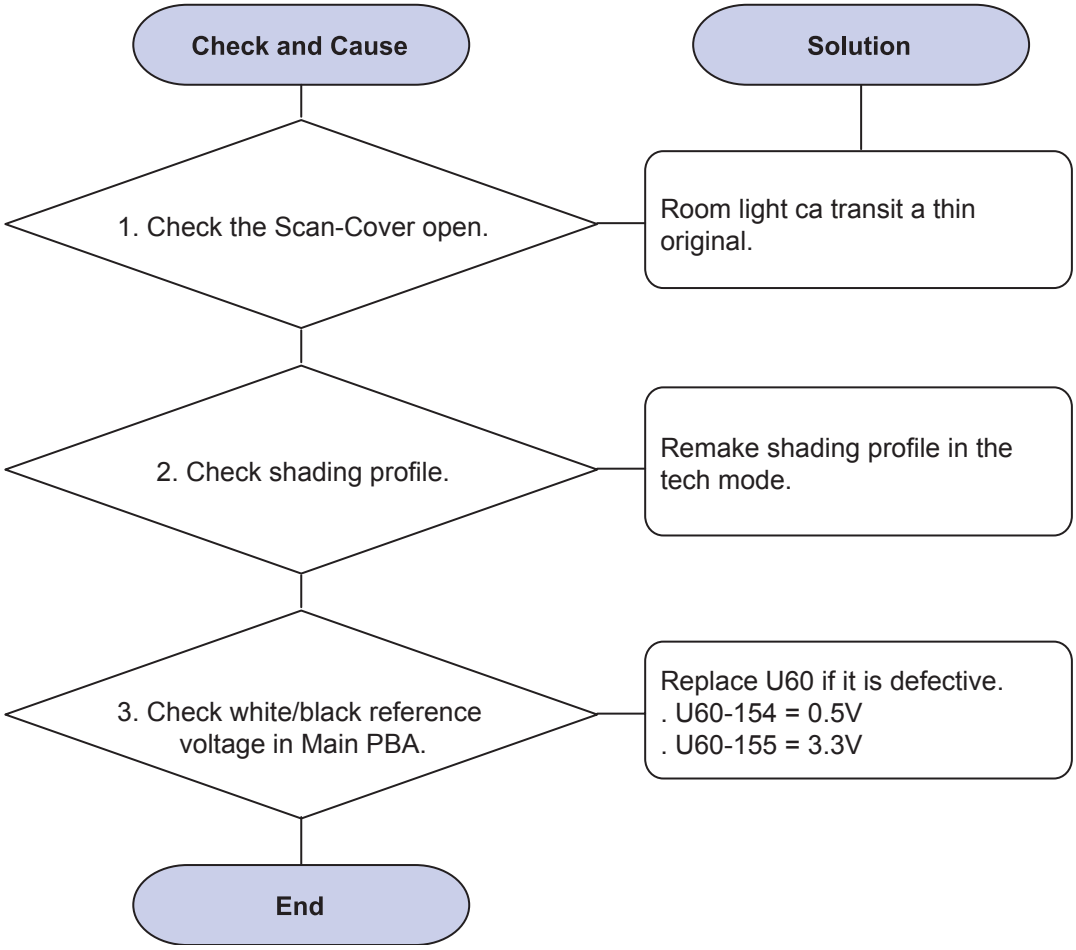
Description : The automatic receiving function is not working.


Check and Cause
Solution
1. Check if the RECEIVE Mode is TEL MODE or FAX MODE.
1. If the RECEIVE Mode is set to the TEL MODE, reset it to the FAX MODE.
2. Even after the RECEIVE Mode is changed to the FAX Mode, it cannot receive, then try to replace the LIU and the Main B'd in sequence.
End

4.2.7 Copy Problems

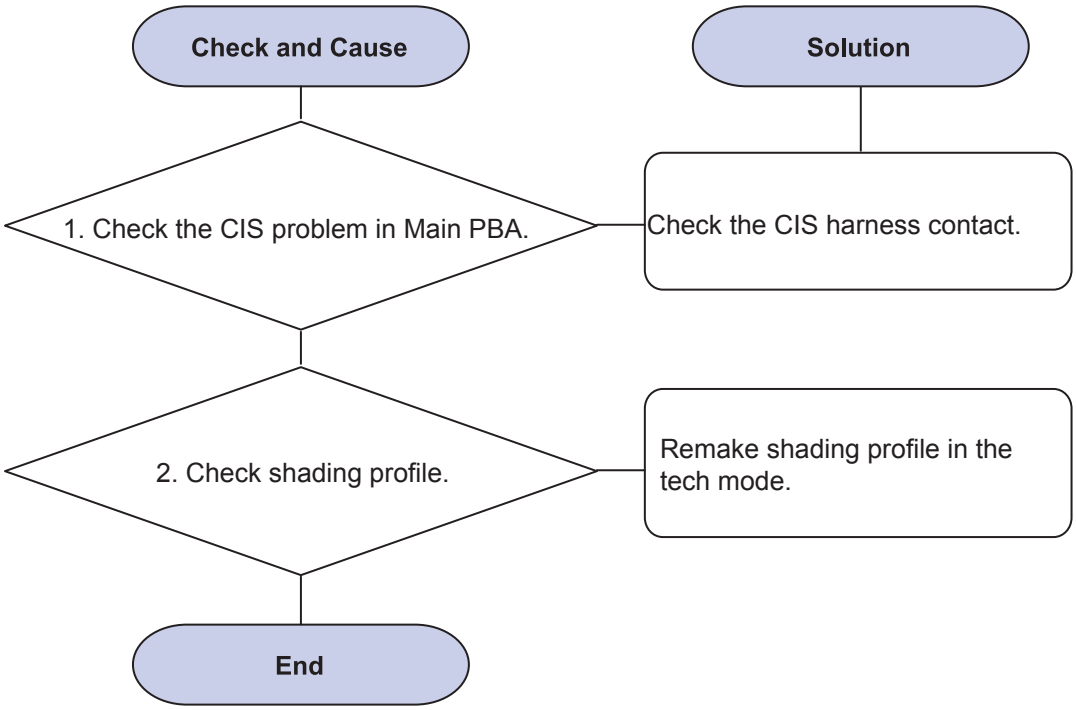
1) Black Copy

Description : Black page is printed out when copy.


Check and Cause
Solution
1. Check the Scan-Cover open.
Room light ca transit a thin original.
2. Check shading profile.
Remake shading profile in the tech mode.
3. Check white/black reference voltage in Main PBA.
Replace U60 if it is defective.
. U60-154 = 0.5V
. U60-155 = 3.3V
End

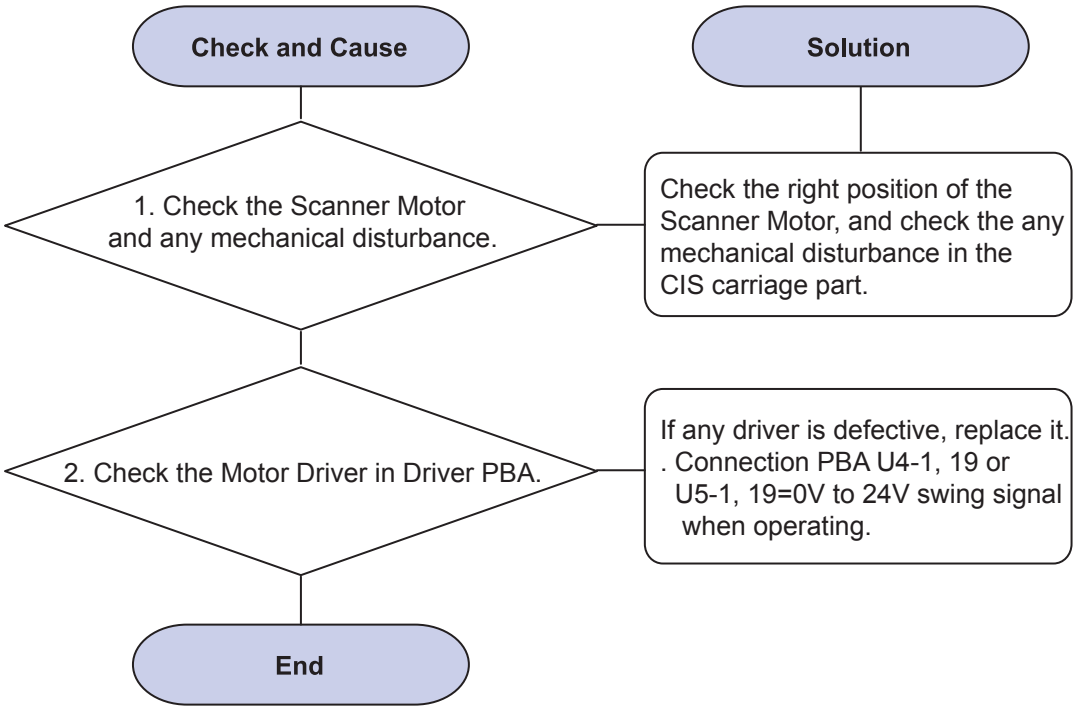
2) White Copy

Description : White page is printed out when Copy.


Check and Cause
Solution
1. Check the CIS problem in Main PBA.
Check the CIS harness contact.
2. Check shading profile.
Remake shading profile in the tech mode.
End

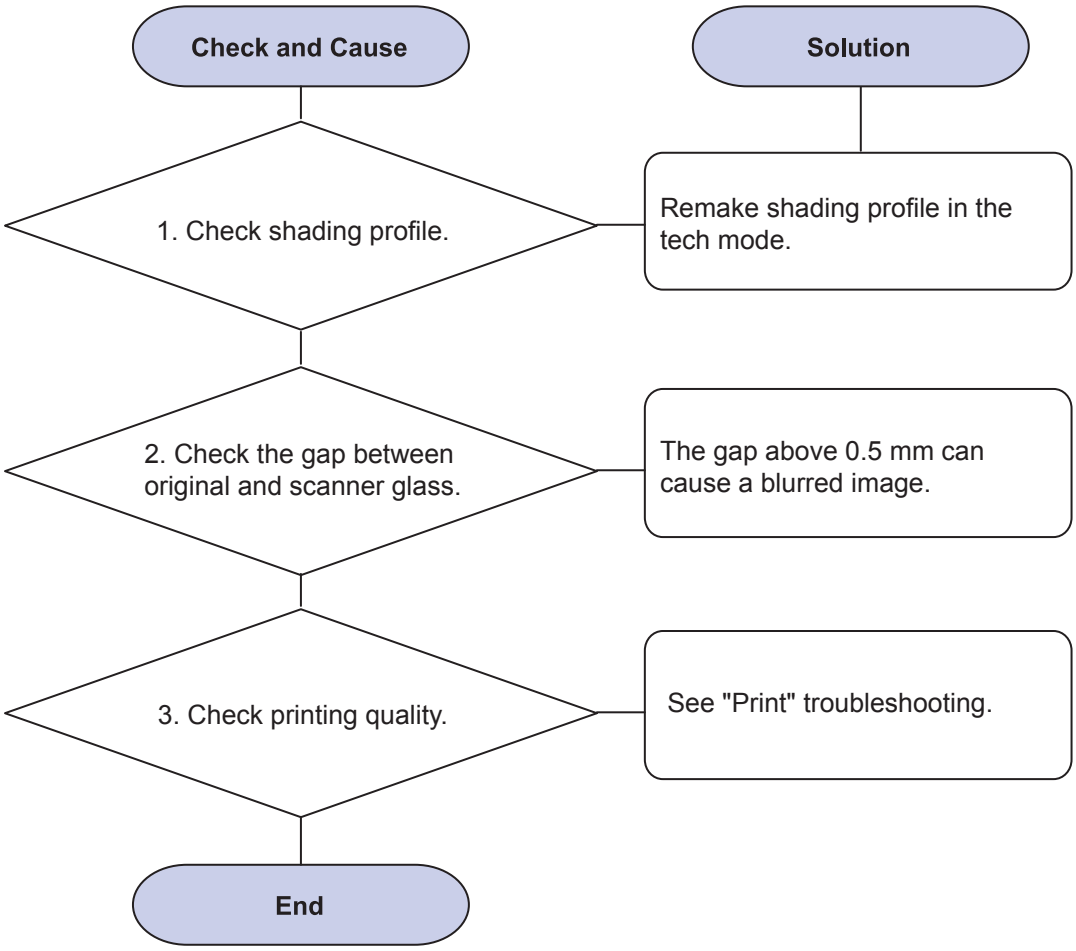
3) Abnormal noise

Description : There is noise when copy.


Check and Cause
Solution
1. Check the Scanner Motor and any mechanical disturbance.
Check the right position of the Scanner Motor, and check the any mechanical disturbance in the CIS carriage part.
2. Check the Motor Driver in Driver PBA.
If any driver is defective, replace it.
. Connection PBA U4-1, 19 or U5-1, 19=0V to 24V swing signal when operating.
End

4) Defective Image Quality

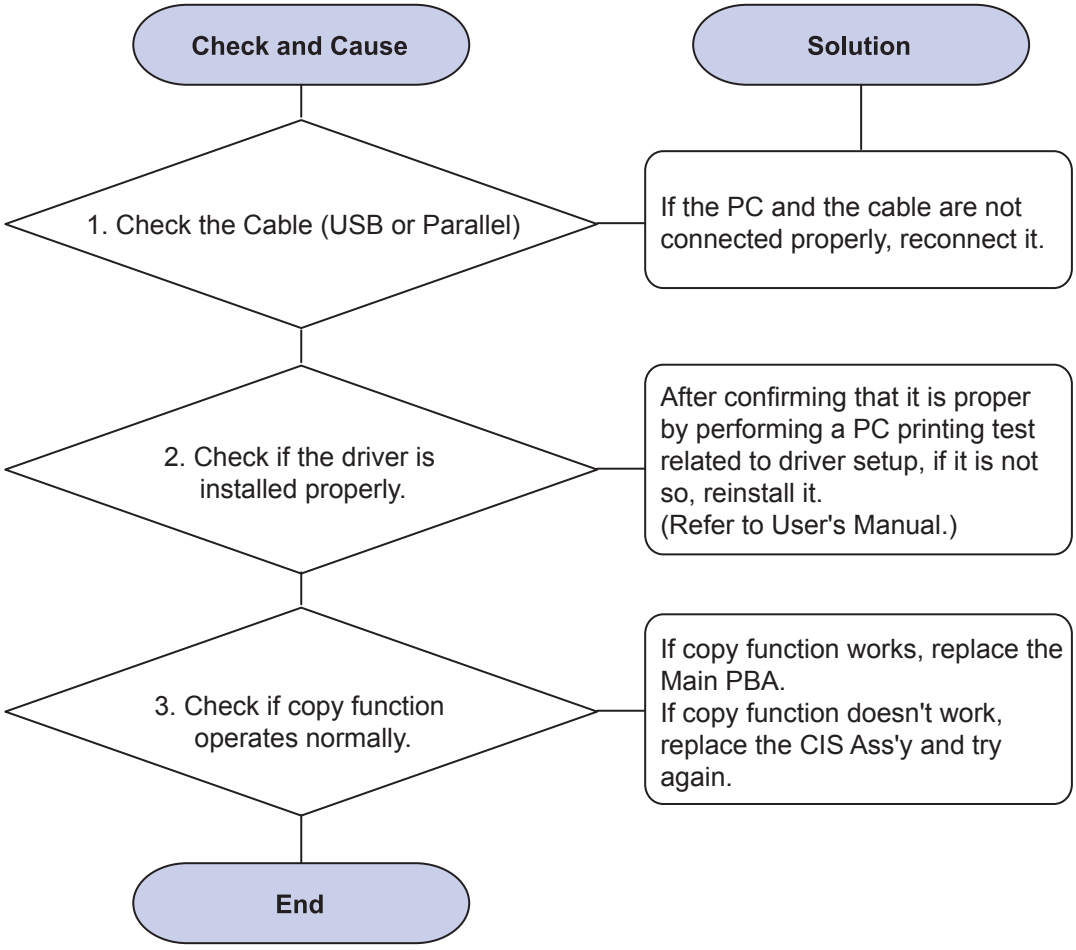
Description : The copied image is light or bad.


Check and Cause
Solution
1. Check shading profile.
Remake shading profile in the tech mode.
2. Check the gap between original and scanner glass.
The gap above 0.5 mm can cause a blurred image.
3. Check printing quality.
See "Print" troubleshooting.
End

4.2.8 Scanning Problems

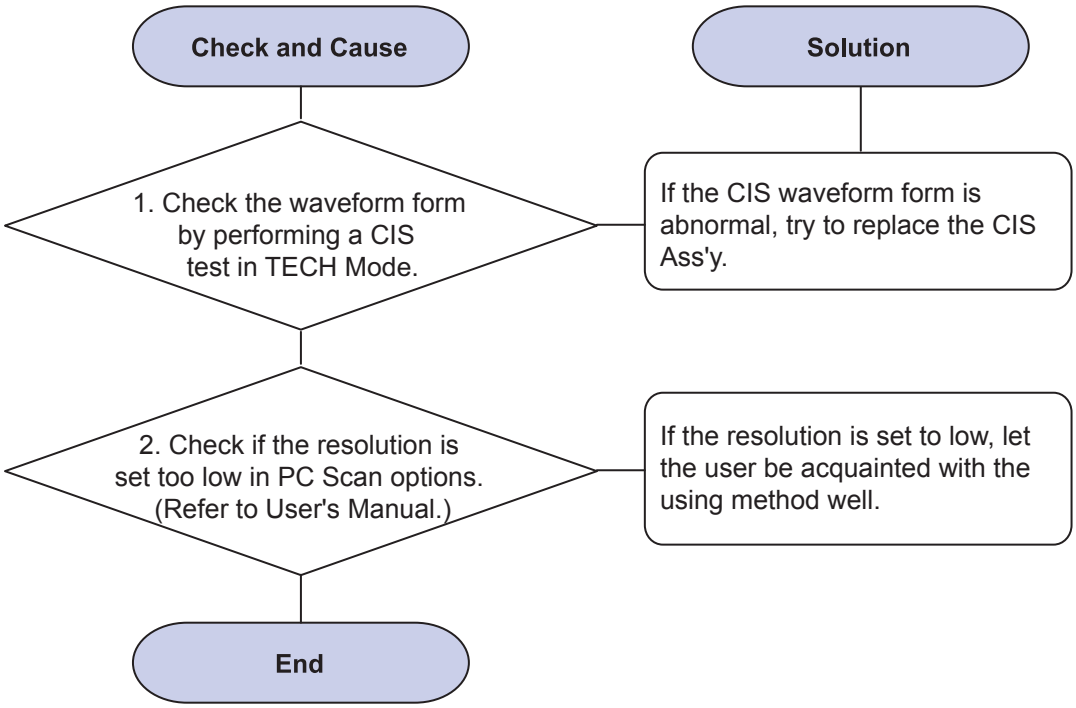
1) Defective PC Scan

Description : The PC Scan is not functioning at all.


Check and Cause
Solution
1. Check the Cable (USB or Parallel)
If the PC and the cable are not connected properly, reconnect it.
2. Check if the driver is installed properly.
After confirming that it is proper by performing a PC printing test related to driver setup, if it is not so, reinstall it.
(Refer to User's Manual.)
3. Check if copy function operates normally.
If copy function works, replace the Main PBA.
If copy function doesn't work, replace the CIS Ass'y and try again.
End

2) Defective Image Quality of PC Scan

Description : The image PC scanned is not clear or bad.


Check and Cause
Solution
1. Check the waveform form by performing a CIS test in TECH Mode.
If the CIS waveform form is abnormal, try to replace the CIS Ass'y.
2. Check if the resolution is set too low in PC Scan options. (Refer to User's Manual.)
If the resolution is set to low, let the user be acquainted with the using method well.
End